PROJECT ~
UNIVERSITY OF
CALIFORNIA,
IRVINE CAMPUS

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# LONG RANGE DEVELOPMENT PLAN
# UNIVERSITY OF CALIFORNIA
# IRVINE, CALIFORNIA

PREPARED BY:
WILLIAM L. PEREIRA & ASSOCIATES
MARCH 29, 1963

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## FOREWORD

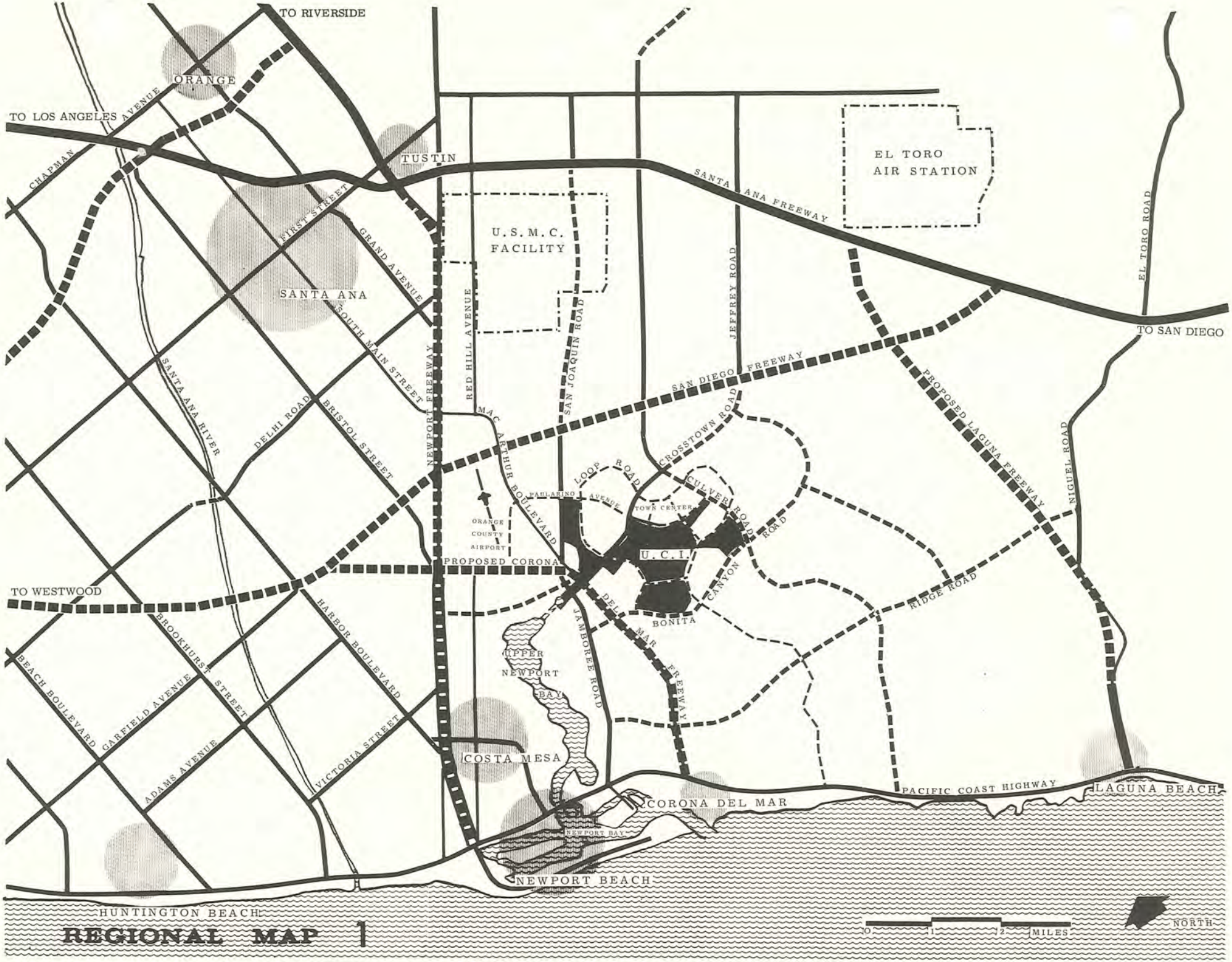
This document has been prepared by the staff of William L. Pereira & Associates, with the help and cooperation of Irvine Campus and University Statewide staffs. It is the culmination of a seventeen month campus planning contract and some six years of site selection and planning studies. The policy concepts and directions evident in its proposals were formulated by the Irvine Campus Planning Committee headed by Chancellor Aldrich.

The Plan establishes strong policy guidelines for the physical planning of the Irvine campus. It considers the relationships between academic, semi-public, research, housing, recreational and other campus activities in order to organize and coordinate those complex relationships and insure proper function, best use of site, most pleasing aesthetic effect, and a most logical programming of development. It establishes a basic skeleton of roads, walks, plazas, open space and building sites. From this skeleton, future planning and development decisions can systematically evolve.

This plan has been formulated to be flexible and dynamic. Yet it must also establish some firm rules to control and guide campus growth from the first increment of buildings to its ultimate destiny. Naturally, it should be subject to periodic review, study, and amendment to insure that it meets changing requirements. Extensive updating should probably take place every five years.

Foreword (cont.)

This planning document contains a summary of the historical, academic, and environmental factors affecting the planning for this campus. It presents the Plan's proposals and implementation programs. Finally, it provides certain background and documentary materials pertinent to the Long Range Development Plan.




**REGIONAL MAP 1**

## A. PLANNING HISTORY

### Recognition of the need for a new campus

The roles of Junior Colleges, State colleges and the University in the State's educational system were defined by the California Master Plan for Higher Education. The responsibilities assigned to the University of California were:

1. To provide undergraduate instruction leading to baccalaureate degrees, graduate instruction leading to master's and doctoral degrees, instruction in professional fields, post-doctoral programs and teacher education programs.

2. To conduct basic and applied research.

During the years immediately following World War II the population of California was increasing at a phenomenal rate and it became apparent that the existing campuses of the University of California would soon become so crowded that they would be unable adequately to perform their tasks of instruction and research. At the same time, new responsibilities were being added by increased demands for technological training and the continually expanding economy of the State.

In the late 1950's with the need for expansion becoming more pressing every year it was decided that new campuses must be created. Enrollment projections led to the conclusion that three new campuses were needed by 1970.

## Site Selection Process

In determining where sites for the new campuses should be located the highest priority was given to those areas with large and rapidly increasing populations, where the new campus would also relieve pressure on one of the existing campuses of the University. One of these areas is the Southern California Metropolitan Center Section, composed of Southeast Los Angeles and Orange Counties.

Southeast Los Angeles County has an expected population of 1,320,000 by 1980. Orange County has experienced constant annual population increases, from 216,000 in 1950, to 704,000 in 1960, to 900,000 in 1963. It is predicted that by the year 2000 AD the population will be approximately 2,620,000. Thus by the year 2000 the new campus in this area can be expected to serve a population of at least 4 million in Southeast Los Angeles and Orange Counties alone, which will greatly relieve the pressure on the University at Los Angeles and at Riverside.

In 1957 a University administrative committee formulated criteria for new campus site selection. Their report, issued in January 1958, was further developed by the consulting firm of Pereira & Luckman, which had been retained by the University to advise on the selection of two of the new campus sites, one in San Diego County and one in the Southeast Los Angeles - Orange County area.

Twenty-three sites in the Southeast Los Angeles-Orange County area were examined in terms of size, shape, physical setting, availability, accessibility, relationship to center of population and potential for planned community development. The three most highly rated were considered by the Regents in March 1959 and Site #9 located on the Irvine Ranch a few miles inland from Newport Beach, was tentatively selected.

The site is on gently rolling land, with an inspiring outlook to the north and west over the Santa Ana Basin. As Orange County develops, the campus will be situated at the center of a large urban area and connected to metropolitan Los Angeles by a network of freeways. Among the principal reasons for the choice of the site were that it had the desired nobility and "sense of place" and that, because it was under one ownership, there was great potential for development within a broad master plan framework with an opportunity for control of the surrounding areas through mutual agreement with the owner.

After the campus site had been tentatively approved, the University and The Irvine Company jointly retained the firm of William L. Pereira & Associates as planning consultants to make a more detailed study to establish firmly the validity of this location for the East Los Angeles-Orange County campus. The study was conducted in two phases. The report on the first phase, "A University Campus and Community Study", was completed in October 1959. It concluded that the development of a university campus on the site was feasible, that the site afforded unique

opportunities for an integrated university community, and that support and cooperation from neighboring cities and governmental agencies was assured. The "Second Phase Report" completed in May 1960, designated the general size and boundaries of the proposed university community and prescribed a master land-use map which The Regents and The Irvine Company agreed to follow in principle as a guide to development and as a basis for agreements between themselves, the county municipal authorities, utility agencies and others.

When this site was officially approved in July 1960, The Irvine Company offered one thousand acres to the University as a gift. The Regents accepted the gift and a deed was signed and recorded on January 20, 1961. Provisions were included in the accompanying contract to allow for land trades in establishing final boundaries acceptable to both The Regents and The Irvine Company which provided for flexibility in planning.

In October 1960 William L. Pereira & Associates were retained as Master Planners for The Irvine Company's lands. Since that date, planning has been coordinated between the separate groups working for the University and for The Irvine Company on (1) the over-all plan for development of the Irvine Ranch; (2) the detailed land-use study of the section of the Ranch which includes the campus and the University Community; (3) the design of the University Town Center.

A strong incentive for choosing the Irvine site was the opportunity presented by its completely open, undeveloped expanse, of having campus and community grow together. The University - Irvine Company contract recognized the interdependence of "town and gown" development and provided for a degree of cooperation and mutual participation in this venture. A master plan of land use was a basic element of the contract, which also made provision for both parties to work towards the establishment of an area planning commission for the University Community under the stewardship of the Board of Supervisors of Orange County.

An important element of the land-use plan was the "Inclusion Area" concept, to which both the University and The Irvine Company agreed in principle. This concept provides for areas of housing and commercial development to project into the campus area. Housing would be reserved for faculty, staff and students. Three separate "Inclusion Areas", totalling 660 acres, form a significant feature of the Irvine campus planning program.

## B. ACADEMIC PLAN

### Concepts and Goals

The University of California, Irvine, is planned as a general campus, projecting to an ultimate enrollment of 27,500 students. Development toward this ultimate enrollment will be as rapid as is consistent with demand for admission, financial support, and maintenance of high quality in instruction, research and public service. Its objective will be to carry out the missions assigned to the University under the Master Plan for Higher Education in California.

The University of California is the primary state-supported academic agency for research. It is also the primary agency for doctoral degrees, for post-doctoral instruction, and for professional schools. The University of California, Irvine, will seek to develop excellence in these areas from the start. At the same time, it will offer quality under-graduate, master's degree, and teacher education instruction.

The Irvine Campus will consist of an array of colleges, schools, and institutes arranged in an organizational pattern similar to those which characterize the existing campuses of the University of California. In view of the objectives of the Irvine Campus

this organizational pattern is desirable in order to recruit more easily a faculty which combines teaching, research, and public service interests at a scholarly level; and to develop as quickly as possible strength in depth in the many fields of inquiry which are essential for a well-rounded program of under-graduate, graduate, and professional school instruction and research. Through design and operation of student activities facilities and living quarters, an attempt will be made to produce an environment which is as personalized as possible and one in which the student can develop a strong feeling of identity for the University Community of which he is a part.

Initial Program

The Irvine Campus will:

1) Develop an initial academic organization with a College of Arts, Letters and Science, a Graduate School of Administration, a School of Engineering, and an Institute of Environmental Planning. At the core of the academic structure will be the College of Arts, Letters and Science. This college will offer under-graduate programs and graduate programs also, as soon as approval for graduate

work is obtained from the University. It is hoped that this approval will be given for several disciplines in 1965-66.

2) Create and maintain an atmosphere conducive to inter-disciplinary instruction and research within the College, and between the disciplines represented in the College and the schools of Administration and Engineering, and the Institute of Environmental Planning.

3) Set in motion machinery for obtaining outside funds for research to supplement monies made available for research purposes through the University prior to the 1965-66 opening of the campus for instruction.

4) Establish a School of Engineering with an upper division and graduate program to emphasize systems management and to develop strength in electronics engineering from the start.

5) Establish a Graduate School of Administration, to include instruction and research traditionally offered in separate departments or schools of business, public, and education administration.

6) As needs develop in the future, establish other professional schools such as architecture, law, and medicine, and other institutes and centers.

7) Place strong emphasis on programs of independent student research and study, with a major effort to utilize and develop teaching machine techniques and other instructional methods which will enhance opportunities for individual work.

8) Through University Extension, and in other ways, make constructive contributions to the already flourishing cultural and educational life of Orange County.

College of Arts, Letters and Science:

The College of Arts, Letters and Science is to be the core unit of the academic organization. Its object will be to provide instruction in the basic disciplines. Under-graduate students may major in the disciplines of the divisions of Social Sciences, Humanities and Fine Arts, Biological Sciences, or Physical Sciences. There will also be an opportunity to major in interdisciplinary curricula. Beyond the major, all students will be asked to develop some understanding of other areas in the humanities, arts, social sciences, and natural sciences. Students will have the opportunity to master a foreign language, learn to use mathematical tools, and to develop their ability to write.

The Division of Social Science will include anthropology, economics, education, geography, history, political science, sociology, and social psychology.

The Division of Humanities and Fine Arts will include classics, English, languages, literature, philosophy, art, drama, and music.

The Division of Biological Sciences will include botany, microbiology, zoology and psychology.

The Division of Physical Sciences will include chemistry, geology, physics, and mathematics.

The Department of Physical Education will be in charge of a voluntary physical education program. Initially, at least, there will not be a physical education major.

## C. PHYSICAL FEATURES OF THE SITE

Land forms, soil conditions, climate, natural vegetation, near and distant views, all have an important influence upon the eventual character of the campus. Analysis was undertaken of buildable areas; of the problems of the sun, wind, and rain; of the overall grading and drainage requirements; and of necessary access in order to determine the general layout of the campus, the location of individual buildings and the appropriate type of landscape development. These factors have a significant influence on the design of campus buildings. They also dictate to some extent how the financial resources of the University will be budgeted.

The following maps show physical features of the site which received serious study:

### OVERALL CAMPUS

#### Climate and Weather (Fig. 2)

This map illustrates and describes wind patterns, average weather pattern, precipitation, sun angles throughout the year and the normal range of temperature.

#### Land Forms and Views (Fig. 3)

The dominant land forms of the campus may be identified as the background hills and the central hillside terraces encircled by them.

## CLIMATE AND WEAT

THE UNIVERSITY OF CALIFORNIA, IRVINE CAMPUS SITE EXPERIENCES THE MILD WEATHER CONDITIONS PREVALENT THROUGHOUT THE COASTAL AREAS OF SOUTHERN CALIFORNIA.

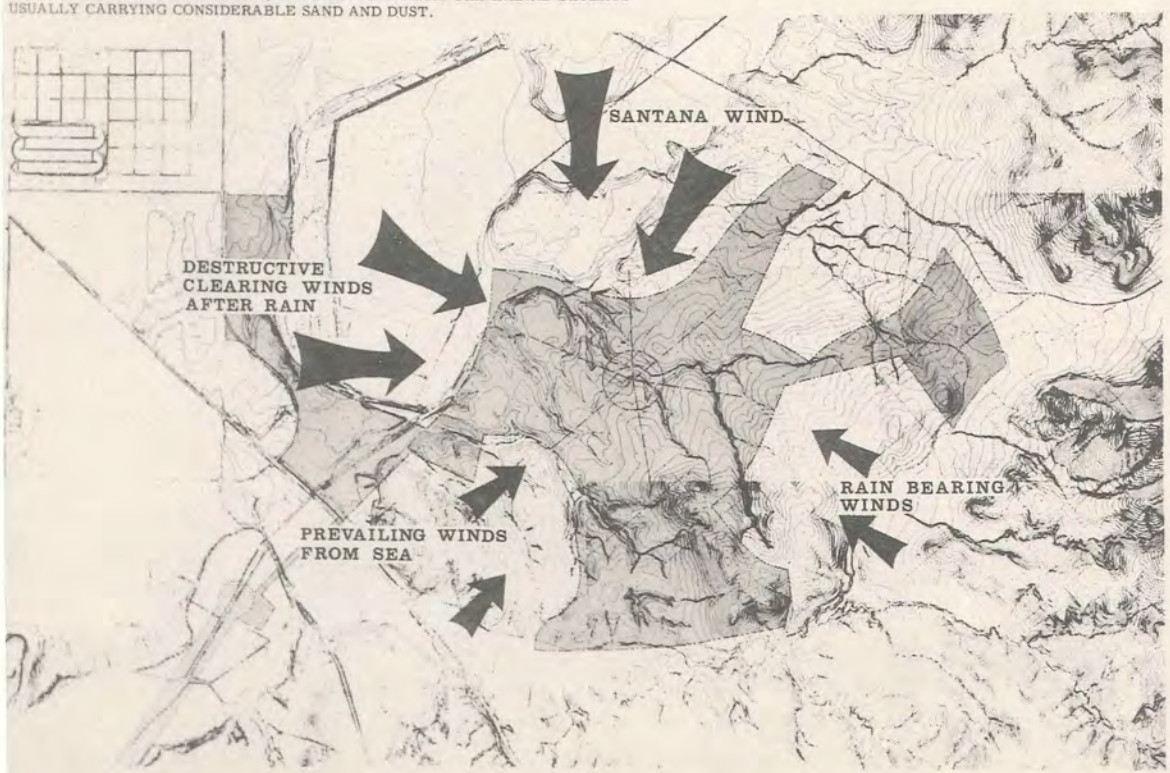
## PRECIPITATION

RAINFALL FOLLOWS THE GENERAL PATTERN FOR THE LOS ANGELES BASIN WITH AN AVERAGE NORMAL EXPECTANCY IN THE NEIGHBORHOOD OF THIRTEEN INCHES ANNUALLY. HEAVIEST RAINFALL OCCURS IN DECEMBER, JANUARY AND FEBRUARY - USUALLY ACCOUNTING FOR OVER ONE-HALF OF THE ANNUAL QUANTITY. THE SUMMER MONTHS, JUNE, JULY, AUGUST AND SEPTEMBER, SELDOM RECEIVE ANY SIGNIFICANT PRECIPITATION. AN AVERAGE LENGTH OF GROWING SEASON OF 301 DAYS.

AREAS IMMEDIATELY ADJACENT TO THE COAST AND LOW LYING AREAS EXTENDING SEVERAL MILES INLAND EXPERIENCE GROUND FOGS, PARTICULARLY DURING THE WINTER MONTHS. ALTHOUGH HEAVY, THESE ARE USUALLY NOCTURNAL AND DISSIPATE BY MID-MORNING. ELEVATIONS IN EXCESS OF 200 FEET ARE GENERALLY CLEAR OF THESE HEAVIEST FOGS. NORMAL EXPECTANCY AT THE EL TORO MARINE CORPS STATION (ELEVATION 380 FEET) IS REPORTED AT 115.7 DAYS EACH YEAR WHEN VISIBILITY MIGHT BE RESTRICTED BELOW SEVEN MILES BY FOG OR GROUND FOG FOR A PERIOD OF ONE HOUR OR MORE.

## WIND

PREVAILING WINDS BLOW FROM THE SOUTHWEST, OVER THE PACIFIC OCEAN, AND PROVIDE A COOLING INFLUENCE FOR AREAS IMMEDIATE TO THE COAST. WINDS ARE NORMALLY MILD, BLOWING THROUGHOUT THE DAY AND DROPPING AT SUNDOWN. MUCH STRONGER WINDS FROM THE NORTHEAST OCCUR OCCASIONALLY (ABOUT SIX PER YEAR). THIS CONDITION, REFERRED TO LOCALLY AS A "SANTANA WIND", IS A HOT WIND FROM THE INLAND DESERTS USUALLY CARRYING CONSIDERABLE SAND AND DUST.




## SMOG

SMOG INTRUSION IN MOST PARTS OF THIS STUDY AREA HAS BEEN MUCH LESS SEVERE THAN IN THE LOS ANGELES AREAS TO THE NORTH AND WEST. SOME INTRUSION IS NOTED IN THE NORTHERN AND WESTERN SECTION.

THE MONITORING STATION IN ANAHEIM HAS RECORDS FOR THE PAST YEAR INDICATING THAT DURING THE MONTHS OF JULY, AUGUST AND SEPTEMBER, 1957, THERE WERE ABOUT TWENTY DAYS OF HIGH OXIDANT READINGS, ALL WELL BELOW THE ALERT STAGE. DURING THOSE DAYS THE HEAVY INVERSION LAYER EXTENDED TO THE SOUTHERN PART OF ANAHEIM AND SOMETIMES AS FAR SOUTH AS THE NORTHERN LIMITS OF SANTA ANA CITY AND EAST TO SANTIAGO CREEK.

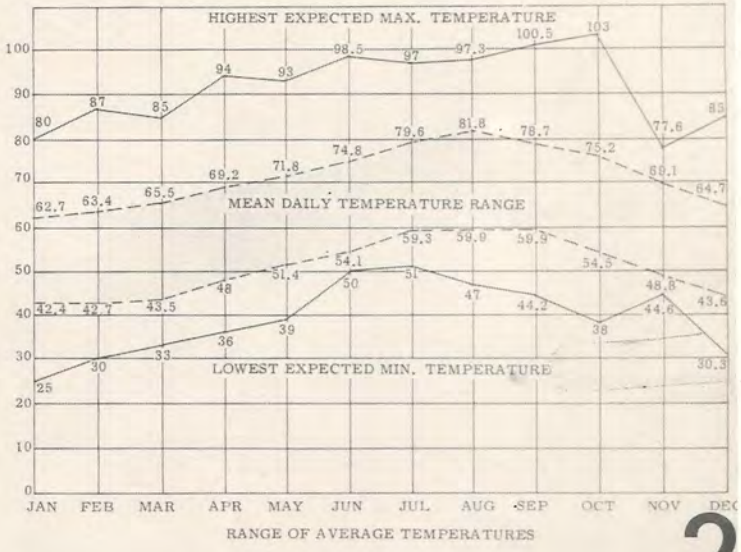
SANTA ANA CANYON ACTS AS A FUNNEL THROUGH WHICH THE POLLUTANTS ESCAPE TO SAN BERNARDINO AND RIVERSIDE COUNTIES. SOUTHERN AND EASTERN ORANGE COUNTY CAN BE CONSIDERED FREE OF SMOG. THE ORANGE COUNTY AIR POLLUTION CONTROL DISTRICT FEELS THAT AIR POLLUTION WILL NOT BECOME A MAJOR PROBLEM IN ORANGE COUNTY DUE TO EARLY ENACTMENT OF ITS SERVICE.

SUN ANGLES
LATITUDE 30°

| DATE | 10:00 A.M. | 12:00 NOON | 5:00 P.M. |
|---|---|---|---|
| JAN. 20 | ALTITUDE 27°<br>AZIMUTH 32°<br>EAST OF SOUTH | ALTITUDE 33° | ALTITUDE 3°<br>AZIMUTH 65°<br>WEST OF SOUTH |
| APR. 20 | ALTITUDE 53°<br>AZIMUTH 55°<br>EAST OF SOUTH | ALTITUDE 86° | ALTITUDE 18°<br>AZIMUTH 90°<br>WEST OF SOUTH |
| JULY 23 | ALTITUDE 60°<br>AZIMUTH 68°<br>EAST OF SOUTH | ALTITUDE 75° | ALTITUDE 23°<br>AZIMUTH 82°<br>WEST OF SOUTH |
| NOV. 23 | ALTITUDE 26°<br>AZIMUTH 28°<br>EAST OF SOUTH | ALTITUDE 33° | ALTITUDE 24°<br>AZIMUTH 81°<br>WEST OF SOUTH |

## TEMPERATURE

THE ACCOMPANYING CHART SHOWS TEMPERATURE CONDITIONS COMPARABLE TO THOSE WHICH MIGHT BE EXPECTED FOR AN AVERAGE OF THE SITE. TEMPERATURE CONDITIONS, PARTICULARLY DURING THE SUMMER, ARE STRONGLY AFFECTED BY PROXIMITY TO THE COAST, ELEVATIONS, AND TOPOGRAPHIC FEATURES OF THE INDIVIDUAL AREA. DURING THE SUMMER HIGHS, INLAND AREAS, PARTICULARLY THOSE OF LOWER ELEVATION, EXPERIENCE TEMPERATURES SIGNIFICANTLY HOTTER THAN THOSE ADJACENT TO THE COAST.



RANGE OF AVERAGE TEMPERATURES


3

LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF CALIFORNIA, IRVINE

LAND FORMS AND VIEWS

SCALE 0 500 1000 2000 FEET

DECEMBER 13, 1962

N

The terraces, lying between the hills and the lower flood plains, offer two distinct types of views: from the Santa Ana Basin southward to the campus and from the campus outward.

The most dramatic views, however, are those both from and toward the higher hills. Large building groups on these hills will be high enough to be visible from great distances, while at the same time they appear to be protected by the still higher coastal hills to the south. Any building placed here will greatly affect the appearance of the campus, as do the hillside laboratories at Berkeley.

Looking down from these hills onto the terraces below, a pattern of natural building sites separated by steep ravines is clearly visible. This topographic separation is utilized in the campus plan to give identity to different building groups.

During a large portion of the year there is also an impressive view eastwards to Saddleback Peak and the range of the Santa Ana Mountains.

Vegetation and Rock Lands (Fig. 4)

The vegetation map indicates that the majority of the site is covered by the native grasses that characterize the California coastal hills from the Mexican border northwards. Most of the grass-covered hills have been used for cattle range, although some areas have been plowed and planted with grains.


4

LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF CALIFORNIA, IRVINE

VEGETATION AND ROCKLAND

0 500 1000 2000
SCALE FEET

DECEMBER 13, 1962

N

The lowlands to the north of the major section of the campus are covered with marshland grasses which attract large numbers of waterfowl at certain times of the year. The natural, semi-wild appearance of this area is very pleasing and will remain a visual asset until development takes place in the distant future.

The highest rocky ridges of the site have large patches of cactus, which should be destroyed before a landscape program is started.

The map also indicated the major outcroppings of igneous and sedementary rock which should retain their present important role in establishing the character of the site.

Drainage Areas (Fig. 5)

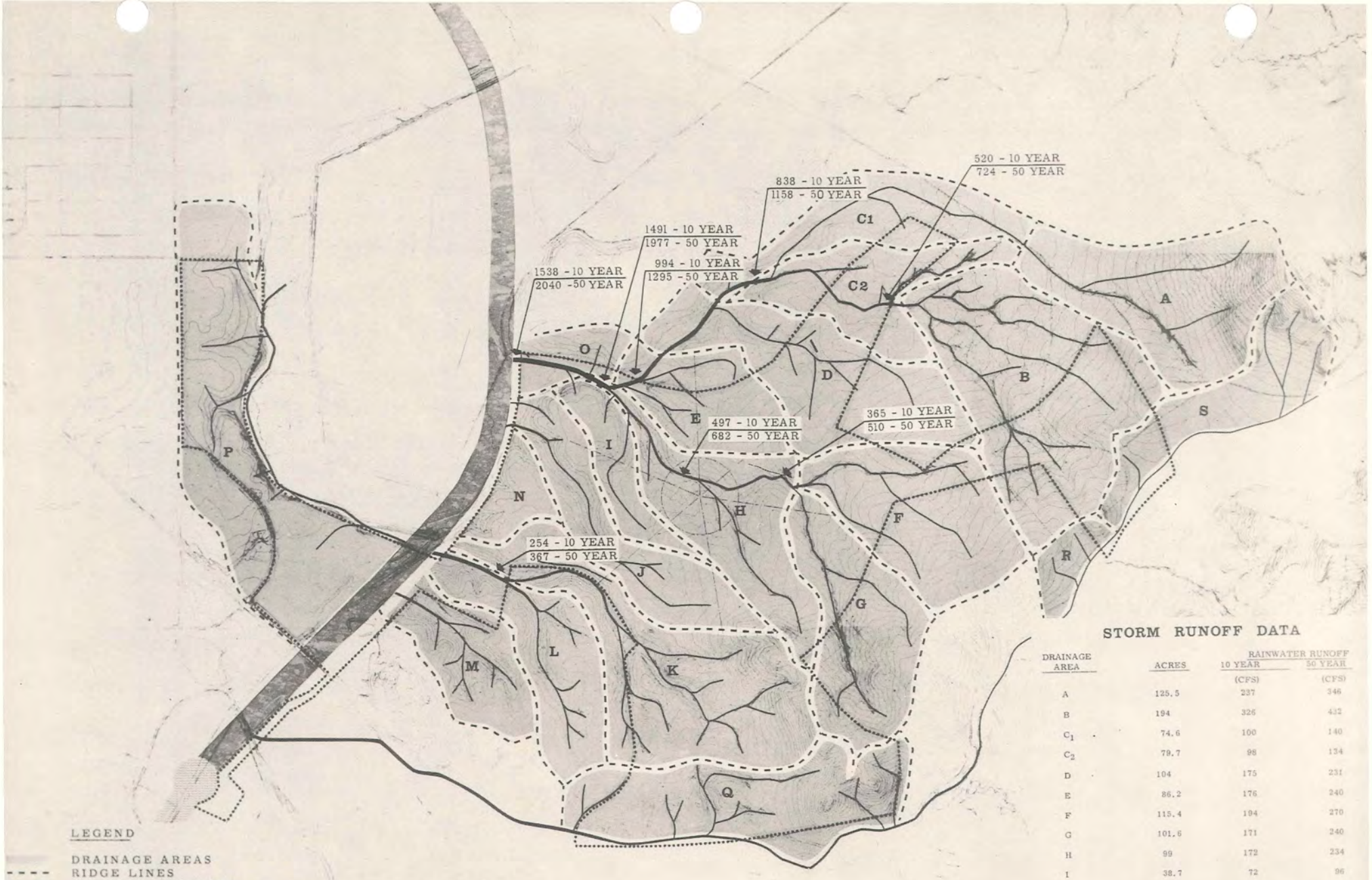
This map illustrates the fifteen separate drainage basins that affect the site and indicates the storm conditions that must be considered as the natural drainage system is modified by the urbanization of the land.

CENTRAL CAMPUS

Three maps explain the basic conditions that will affect the development of the cental portion of the campus.

Site Plan (Fig. 6)

Indicates the proposed road pattern that will define this 460-acre area, illustrates the natural topography and shows diagrammatically




LEGEND

- DRAINAGE AREAS
- RIDGE LINES
- DRAINAGE COURSES
- FLOOD CONTROL CHANNEL
- UNIVERSITY BOUNDARY

## STORM RUNOFF DATA

| DRAINAGE AREA | ACRES | RAINWATER RUNOFF 10 YEAR (CFS) | RAINWATER RUNOFF 50 YEAR (CFS) |
|---|---|---|---|
| A | 125.5 | 237 | 346 |
| B | 194 | 326 | 432 |
| $C_1$ | 74.6 | 100 | 140 |
| $C_2$ | 79.7 | 98 | 134 |
| D | 104 | 175 | 231 |
| E | 86.2 | 176 | 240 |
| F | 115.4 | 194 | 270 |
| G | 101.6 | 171 | 240 |
| H | 99 | 172 | 234 |
| I | 38.7 | 72 | 96 |
| J | 84 | 122 | 170 |
| K | 174 | 175 | 253 |
| L | 78 | 131 | 173 |
| M | 82 | --- | --- |
| N | 47.2 | --- | --- |

5

LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF CALIFORNIA, IRVINE

DRAINAGE AREAS

0 200 400 600 800
SCALE FEET

DECEMBER 13, 1962

N

WILLIAM L. PEREIRA & ASSOCIATES PLANNING & ARCHITECTURE

6

LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF CALIFORNIA, IRVINE

SITE PLAN

0 200 400 600 800
SCALE FEET

DECEMBER 13, 1962

N

the initial planning decision to arrange the buildings around a central ring and a series of radial malls. (Explained in the following section).

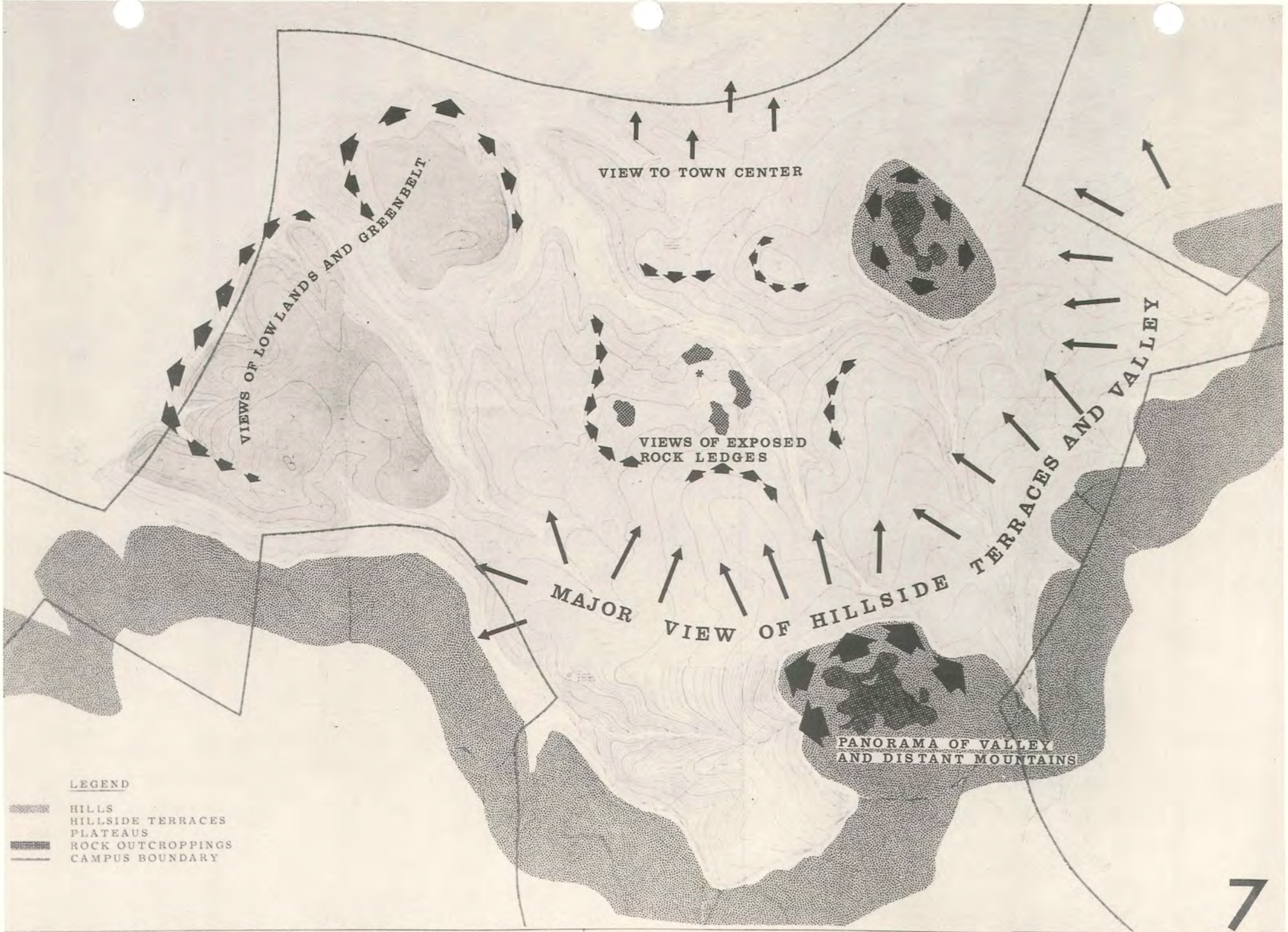
Land Forms and Views (Fig 7)

Illustrates in greater detail the land forms and views that will influence the location and orientation of the buildings. Three primary land forms are indicated: terraces of gently sloping hillsides; ravines with steeply eroded sides; and plateaus with rather clearly defined edges.

The most striking view indicated is the panoramic sweep from the highest hilltop at the southern edge of the Central Campus. The entire campus, the Santa Ana Basin and The Santa Ana Mountains beyond can be seen from here. This view should be protected and should be easily available to the public; consequently, this site should be reserved for some semi-public use.

Slope Category Analysis (Fig. 8)

Relates the various slope characteristics to adaptability for construction.




7

LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF CALIFORNIA, IRVINE

LAND FORMS AND VIEWS

SCALE 0 200 400 600 800 FEET

DECEMBER 13, 1962

N

WILLIAM PEREIRA & ASSOCIATES PLANNING ARCHITECTURE


8

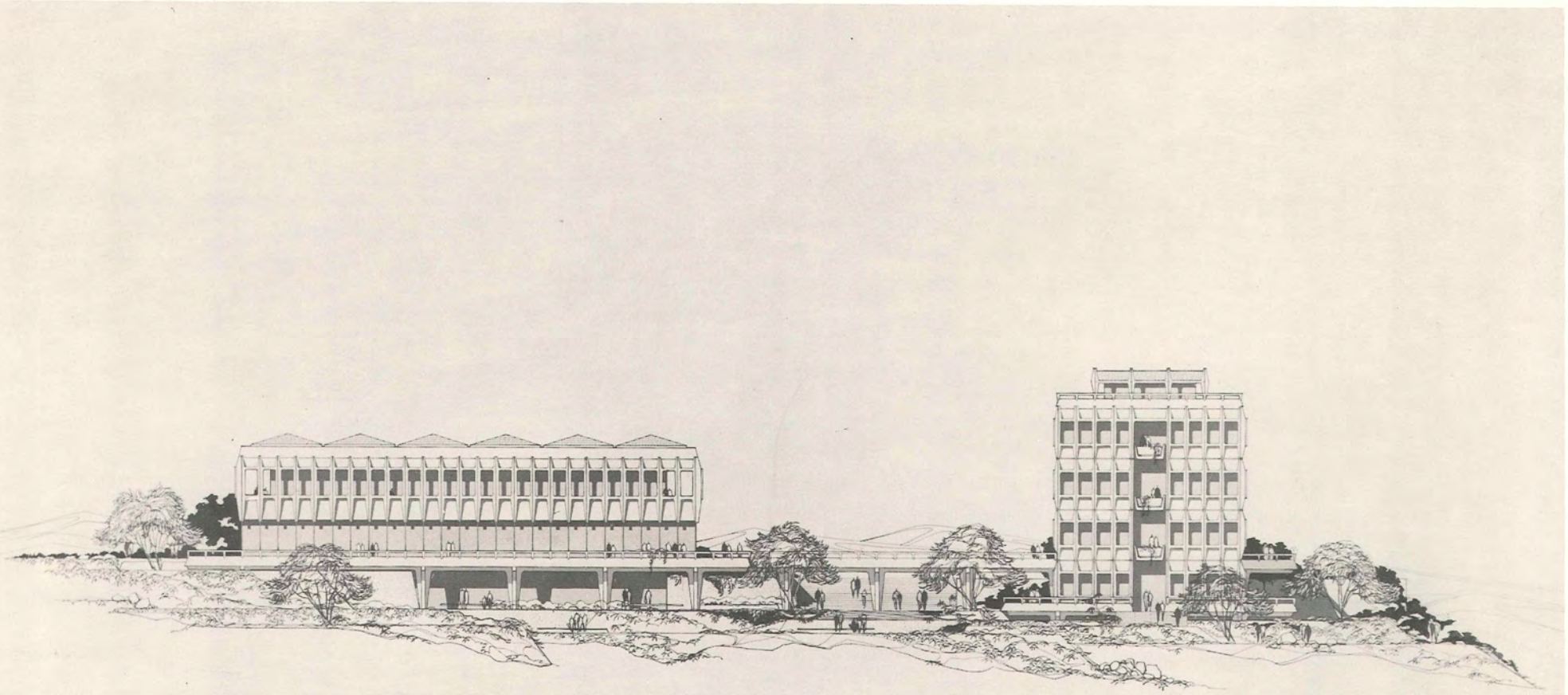
LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF CALIFORNIA, IRVINE

SLOPE CATEGORY ANALYSIS

0 200 400 600 800
SCALE FEET

DECEMBER 13, 1962

N



PARK ELEVATION

SOCIAL SCIENCES AND HUMANITIES UNIT I

# UNIVERSITY OF CALIFORNIA, IRVINE CAMPUS

ASSOCIATED ARCHITECTS

WILLIAM L. PEREIRA & ASSOCIATES
A. QUINCY JONES, FREDERICK E.
EMMONS & ASSOCIATES - BLUROCK
ELLERBROEK & ASSOCIATES -

## D. LONG RANGE DEVELOPMENT PLAN

### Objectives, Goals and Principles

The primary objective of the Long Range Development Plan is to establish for the Irvine Campus a physical design which represents the best relationships possible between the academic goals, the character and limitations of the site, and the stages of growth necessary to take the campus from approximately 1000 students in 1965 to its ultimate enrollment of 27,500 in 1990.

This objective implies the need for a series of immediate and long-term goals for campus development. These were formulated as follows:

(1) The campus must have a focal point to establish a "heart" and a "sense of place."

(2) The first impression must give to the viewer a sense of the destiny of the campus.

(3) The first students must be made to feel a part of a major institution.

(4) Strong but flexible principles must be developed to guide the campus planning.

(5) The final plan must evolve out of experience and changing needs.

As early planning research and site analysis progressed, the following basic decisions were made:

(1) There will be a Central Campus of 450 to 500 acres, containing the major academic facilities, the housing for single students, principal athletic areas, some student recreation areas, and some restricted parking for special faculty, staff and commuter students.

(2) The core area of the campus will be near the community town center, to which it will be joined by a strong link.

(3) The Central Campus will be separated from the outer campus lands and from the Inclusion Areas by sections of an intra-community road system which will form a continuous link between the University and the industrial and residential facilities beyond.

(4) The outer campus lands will be reserved for married student housing, special graduate and research facilities, a possible medical-hospital complex, a possible athletic stadium, service facilities and unprogrammed expansion.

Principles concerning form and function which exerted a powerful influence upon the plan are:

(1) Closely related academic disciplines will be clustered together for identity and to facilitate interchange and

circulation of staff and students. Each academic building cluster, together with the formalized open spaces around which the individual buildings are located, constitutes a quadrangle.

(2) Some overall design idiom will be established to give unity and a comprehensible scale to all campus buildings, while still allowing individual treatment within each cluster.

## Plan Concepts

### Central Campus

Basic design elements of the Central Campus consist of six quadrangles arranged in a radial fashion, the ring which connects the quads and the park, which the ring encloses. The obvious benefit of this arrangement is to shorten the distance between each of the quads to the minimum and to permit orderly incremental growth.

### The Quadrangles

Each of the five academic disciplines is recognized physically in the form of a quadrangle plan. The principal feature of each quad is a major plaza. The elements of the sixth quad, which are the administrative center, the main library buildings, and other student activity and cultural facilities, are also arranged around a major plaza. A mall virtually bisects the quads, joining the major plaza with a series of minor plazas about which are arranged the ten or fifteen buildings comprising the physical facilities. These malls terminate in a terrace overlooking the park.

The only non-academic quadrangle is the Gateway Quad which provides a strong visual and access link to the town center. The plaza at the core of the Gateway Quad will be

designed to accommodate a flow of thousands of persons an hour during most of the day and evening. It can serve as the ceremonial entrance to the campus and the primary entry for visitors.

The five academic quads are a direct outgrowth of the Academic Plan. It is interesting to note, however, that although they function perfectly within the proposed academic organization, they could also serve if some type of "college" system were to be introduced.

Gateway Quad will be flanked on the west by the Humanities Quad and on the east by the Social Sciences Quad, giving both academic groups a strong relationship to one another and to the undergraduate library which they will share.

The Life Sciences Quad will be located next to Humanities in order to encourage a stronger relationship between these disciplines.

The Physical Sciences Quad will be located next to Life Sciences in order to encourage joint use of certain facilities and to allow for easy exchange of students between the two.

The Engineering Quad is located next to Physical Sciences,

since Engineering draws heavily upon this discipline. Also, because the School of Engineering at this campus will seek to emphasize instruction and research in systems management, close relations with the School of Administration are desirable. It is therefore appropriate that the Engineering Quad is next to Social Sciences, which includes the School of Administration.

The Ring

The circular element which joins the plazas is to be known as the Ring Mall. It is the principal link between each of the plazas and will be a very strong architectural feature, providing for pedestrian movement, bicycles and essential emergency vehicular movement.

The first increment of each of the six quadrangles is sited within the Ring Mall. The elements of the Ring from a total design standpoint are the mall itself, the terraces and buildings within the Ring Mall, the major plazas of each quad, and the usable spaces between the first increment buildings.

In addition to connecting the major plazas, the Ring Mall also bridges the major drainage courses traversing the campus.

## The Park

The Park is located at the heart of the campus and will be designed as an informal gathering place containing facilities of the various types found in the central parks of highly urbanized areas.

As a permanent reserve of landscaped open space, it will offer relief from the densely built-up areas eventually to be developed around it. It will be a busy place in terms of pedestrian movement and programmed activities and it will also provide quiet spaces for outdoor reading, lunching and conversation.

It will contain important features which will contribute to its aesthetic appeal and to the significance of its role as the focus of campus activity. Some of these features are the "Centrum"; the "Great Lawn"; a lake, or lakes; and an amphitheater.

The "Centrum" will be the architectural symbol of the campus and is located at the geometric center of the park. Its most prominent feature will be a campanile, 250 to 300 feet tall, housing a carillon. It will not only be the focal point of the campus but can be seen at great distances from the areas surrounding the campus. The

campanile will rest on a large circular podium set at an elevation to make it visible from the entire park, the Ring Mall, and the terraces at the end of the six radial malls of the quadrangles. In this way, it can have ceremonial use and function as a speaker's platform. The topography of the park when appropriately landscaped provides for a large oval of green turf forming the "Great Lawn", which slopes toward the podium, creating a natural amphitheater.

## Non-Academic Facilities

The Central Campus is reserved for the academic and semi-public buildings in the six Quads, for the Park and for other permanent landscaped spaces. Encircling this core will be areas for housing, athletics and special parking. The five arms of the outer campus are designed for several additional types of facilities including married student housing, recreation, specialized research, services and reserve for such future developments as a health sciences complex. These non-academic facilities are described below.

## Housing

Surrounding the zones of academic activity will be a zone

for single student housing divided into several distinct areas, each with its own individual characteristics. It is hoped that the Irvine Campus, as ultimately developed, will provide a variety of housing types so that students choosing to live on campus will be able to select a place to suit their desires.

Married student housing will be located in the outer campus. It also will be divided into several areas, designed as independent villages, each with its own community and recreational facilities.

In keeping with the Regents' policy on student housing, space has been allocated for 25% of the ultimate student body to live on campus. With housing for students available in the Inclusion Areas and with the expectation that others will live close by, it is hoped that as many as 50% may live close enough to be considered residents of the general University Community. (See Appendix I for details.)

Athletic-Recreational Facilities

Five of the six athletic and recreation areas will be located outside the Central Campus, the exception being

the gymnasia area where physical education instruction will be conducted.

(1) Gymnasia and Major Athletic Fields: located in an area of 88 acres in the northwest segment of the Central Campus, close enough to the academic zone for easy access. Enough land is available for a large sports pavilion if one is required in the future. There will be facilities for a variety of indoor and outdoor sports, grass fields for multi-use, and swimming pools. In addition, there will be a 3-par golf course built alongside the main University Town Center - Campus entry road in an area not suited to any other use. The athletic complex will give a green border to Crosstown and Paularino Roads as they pass the campus.

(2) Housing Area Recreation: as a part of each housing area, there will be recreation space, to include volleyball courts, tennis courts and grass playing fields. Within the Married Student areas there will also be play yards for children and a recreational building for adults.

(3) Intramural Fields: In the future, there will be need for a large area solely devoted to intramural play. A section of the old sanitary fill site along MacArthur Boulevard, not suitable for building, will be used for this purpose. These fields will also give a green park-like setting to the intersection of Crosstown Road and the future Corona del Mar Freeway.

(4) Campus Recreation Center: A six acre site within the greenbelt leading out to the Stadium has been reserved for a Campus Recreation Center similar to the one in Strawberry Canyon at Berkeley.

(5) Stadium and Park: A 50-acre site has been reserved for a major sports stadium and park at the intersection of Bonita Canyon and Crosstown Roads. There will be excellent parking and circulation at this site, it will not take up needed space close to the center, yet it is still part of the overall Campus design.

If it is decided not to build a stadium, this site can be used for additional research facilities.

(6) Upper Bay: Five acres are designated for a waterfront park, connected to the campus by a land corridor 100 feet wide. This site will serve as an excellent recreational facility as well as for such aquatic sports as swimming, sailing and crew racing.

Services and Reserve

A large university requires considerable housekeeping services and a special area for these activities. Motor pool, maintenance, warehouses, storage, press, commissary, repair shops and other corporation yard facilities will be located at the Paularino Road end of the San Joaquin arm of the campus. The semi- industrial character of these facilities will be more compatible with the private industrial development in that vicinity than it would be with academic or residential zones. Also, in this location, corporation yard and service functions can have ready access to major highways, reducing the need for large commercial vehicles to enter other parts of the campus.

Other uses for this general area will be research activities more directly related to research and development industries located nearby than to student-oriented activities on campus.

## Circulation

The Long Range Development Plan calls for distinct separation of vehicular and pedestrian circulation and provides three zones for different types of traffic.

(1) The very center of the campus, limited to pedestrians.

(2) The next zone, available to pedestrians, bicyclists and high priority vehicles.

(3) The outer zone, which will have free automotive circulation in addition to pedestrians and bicyclists, although separate road or path systems will be developed for each kind of traffic.

### Internal Circulation

One of the basic planning premises for the Irvine Campus is that internal circulation will be made easiest for, and in certain cases limited to, the pedestrian and the bicyclist. Naturally, all areas of the campus will be accessible to service and emergency vehicles. Rather than providing a completely separate road system for these vehicles, certain main pedestrian ways will be built to standards adequate to carry the necessary trucks and fire-fighting equipment.

Vehicular Circulation

General automotive circulation will be restricted to the entry roads and to the Loop Road, which partially defines the central campus and links the Inclusion Areas, the stadium, portions of the outlying residential areas, the craft industries and the services section of the campus. The campus will generate several different types of parking needs; for resident students; students requiring special parking privileges (eg. disabled students); commuter students; faculty and staff residing nearby; faculty and staff commuting; and the visitors. Major parking compounds will be located in the outer campus, in a band within the central campus and immediately adjacent to academic areas there will be several small parking lots for five to ten cars each, reached by service roads. These will be reserved for people with the highest parking priority.

A local transit system, possibly student operated, would be desirable to transport people from major parking compounds to the central campus. Bicycle parking areas should be provided for those regular commuters who wish to provide their own intra-campus transportation, which we hope will become a tradition (Appendix I D establishes parking needs.)

## Architectural Vocabulary

In order to insure that the campus has unity and cohesion during its growth and when it has attained its ultimate size, some kind of architectural control is necessary in addition to the control imposed by the plan itself. It is not intended that any style be artificially superimposed on the Irvine Campus, but that a design framework be established that will provide a common denominator for all buildings, while still allowing the flexibility necessary for difference in scale and function.

In addition to use of a module, a successful framework of spatial relationships can be enhanced by creating a vocabulary of architectural components relating colors, textures, materials, and small design elements. The two basic influences affecting the development of such a vocabulary are generated by the Master Plan and by the natural conditions of topography and climate. (Appendix II provides further details on vocabulary factors.)

## The Master Plan Documents

In order to provide the basic controls needed to ensure the implementation of The Long Range Development Plan, the following diagrams, dated December 13, 1962, are especially identified, each illustrating one or two of the design principles to be preserved as the campus is developed. These diagrams are analogous to a city plan, presenting its proposals in terms of land-use relationships, zoning controls, and circulation facilities. Collectively, the diagrams constitute the Campus Master Plan.

### Total Campus Plans

A) Land Use Plan: (Fig. 11)

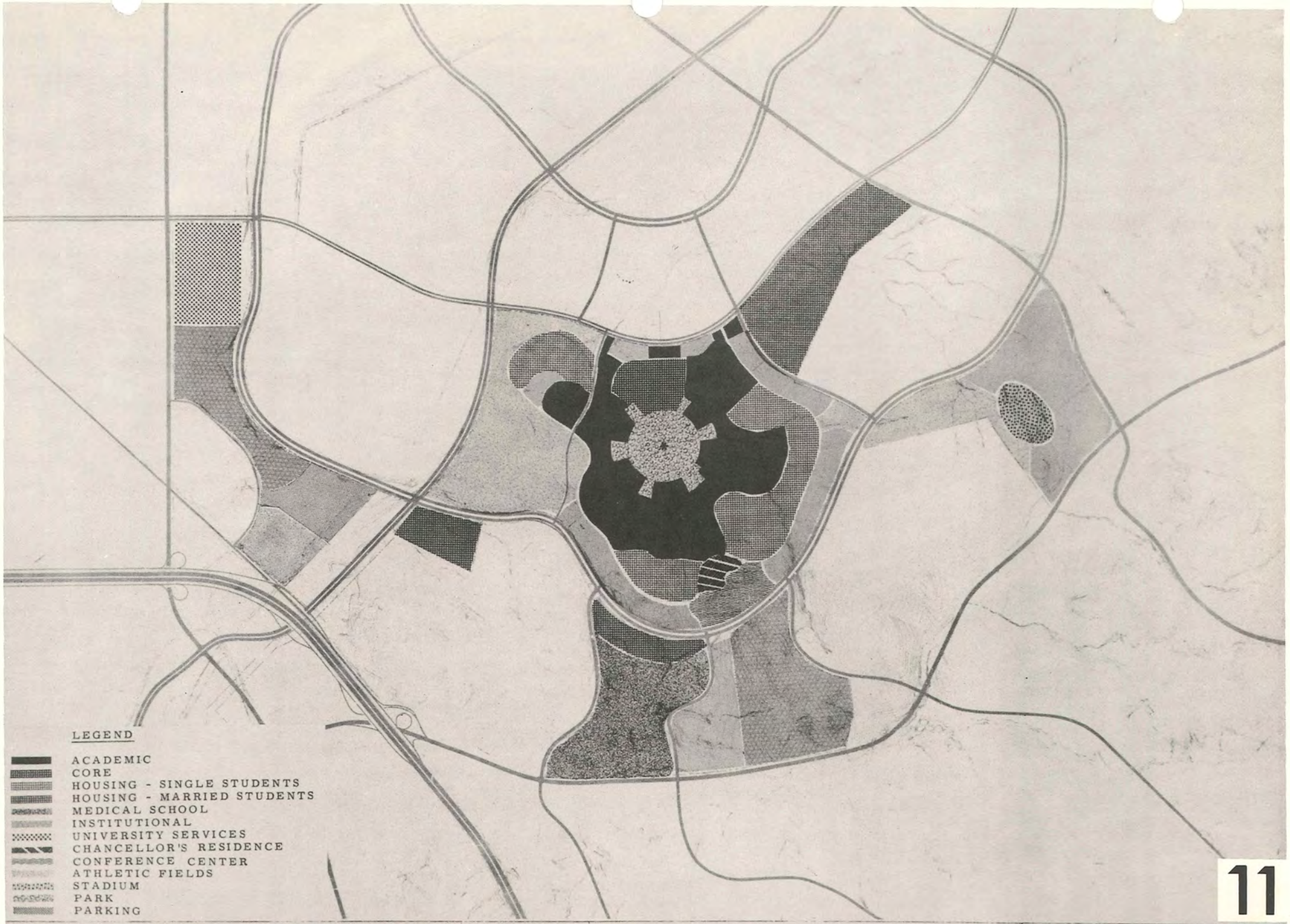
Explains diagrammatically the land uses for the 1000-acre campus.

B) Automobile Circulation and Parking: (Fig. 12)

Indicates the major automotive circulation system and the principal parking areas.

C) Permanent Open Spaces: (Fig. 13)

Shows how the park and naturally landscaped areas within the campus are tied to the recreation areas and other permanent open spaces in the community beyond.




11

LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF CALIFORNIA, IRVINE

LAND USE PLAN

0 500 1000 2000
SCALE FEET

DECEMBER 13, 1962

N


12

LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF CALIFORNIA, IRVINE

AUTOMOBILE CIRCULATION AND PARKING

0 500 1000 2000
SCALE FEET

DECEMBER 13, 1962

N


13

LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF CALIFORNIA, IRVINE

PERMANENT OPEN SPACES

0 500 1000 2000
SCALE FEET

DECEMBER 13, 1962

N

Central Campus Plans

D) Central Campus Organization: (Fig. 14)

Indicates the location of the six major quadrangles and the other major land-use areas within the 450-acre Central Campus.

E) Building Height Zones: (Fig. 15)

Illustrates the high and low building zones which must be maintained to preserve the vistas to and from the Centrum and to separate clearly the urban from the landscaped areas.

F) Exterior Spaces: (Fig. 16)

Established the locations and approximate sizes of the malls and plazas which constitute the skeleton of the six quadrangles.

G) Vehicular and Bicycle Circulation: (Fig. 17)

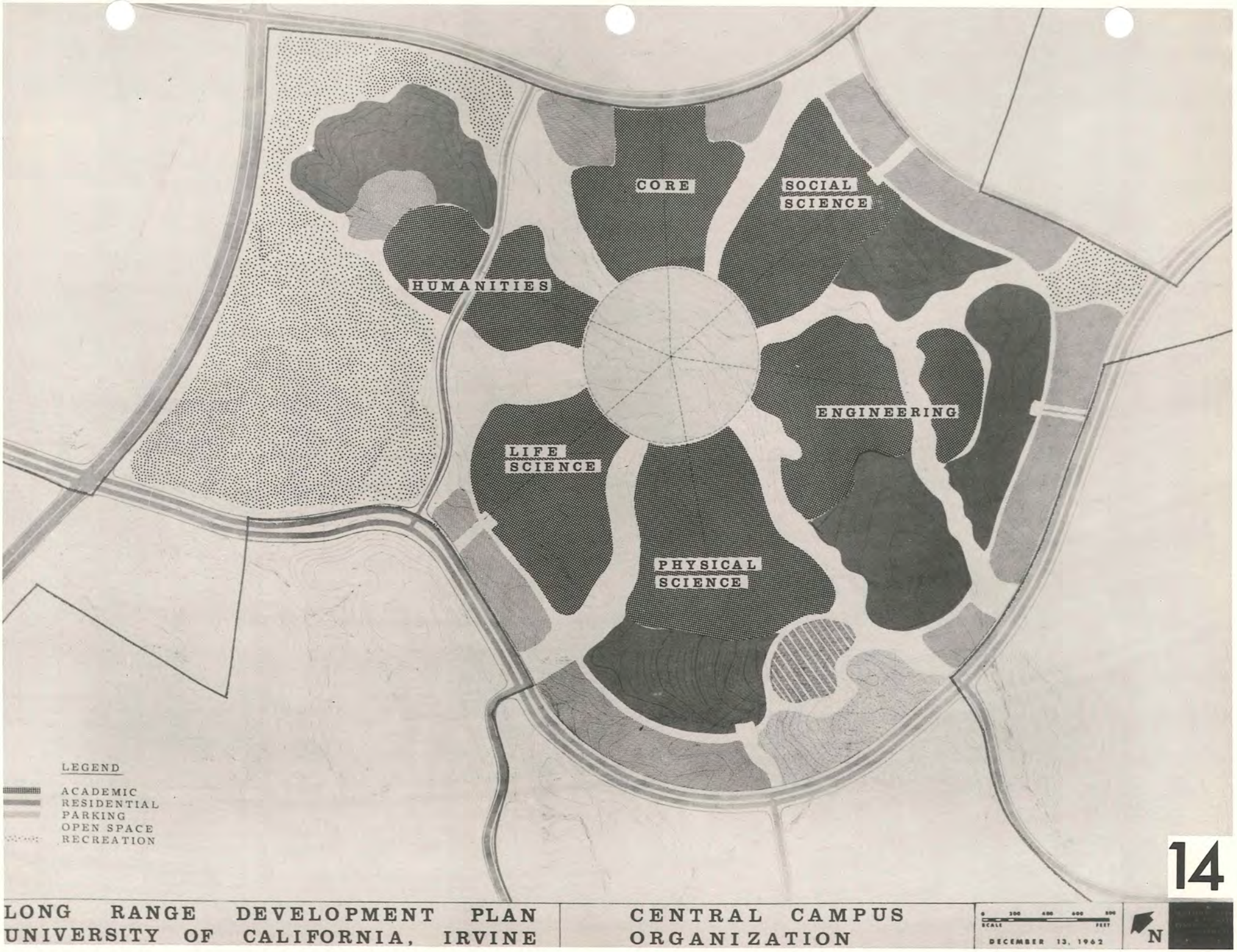
Indicates the principal campus roads and bicycle paths connecting the building groups to each other and to the public roads beyond.

H) Pedestrian Circulation: (Fig. 18)

Indicates the pedestrian walkways system which connects the building groups in both a circular and radial manner.

I) Final Central Campus Plan: (Fig. 19)

A composite of the previous five drawings, establishes all of the principles to guide the design of this area.




14

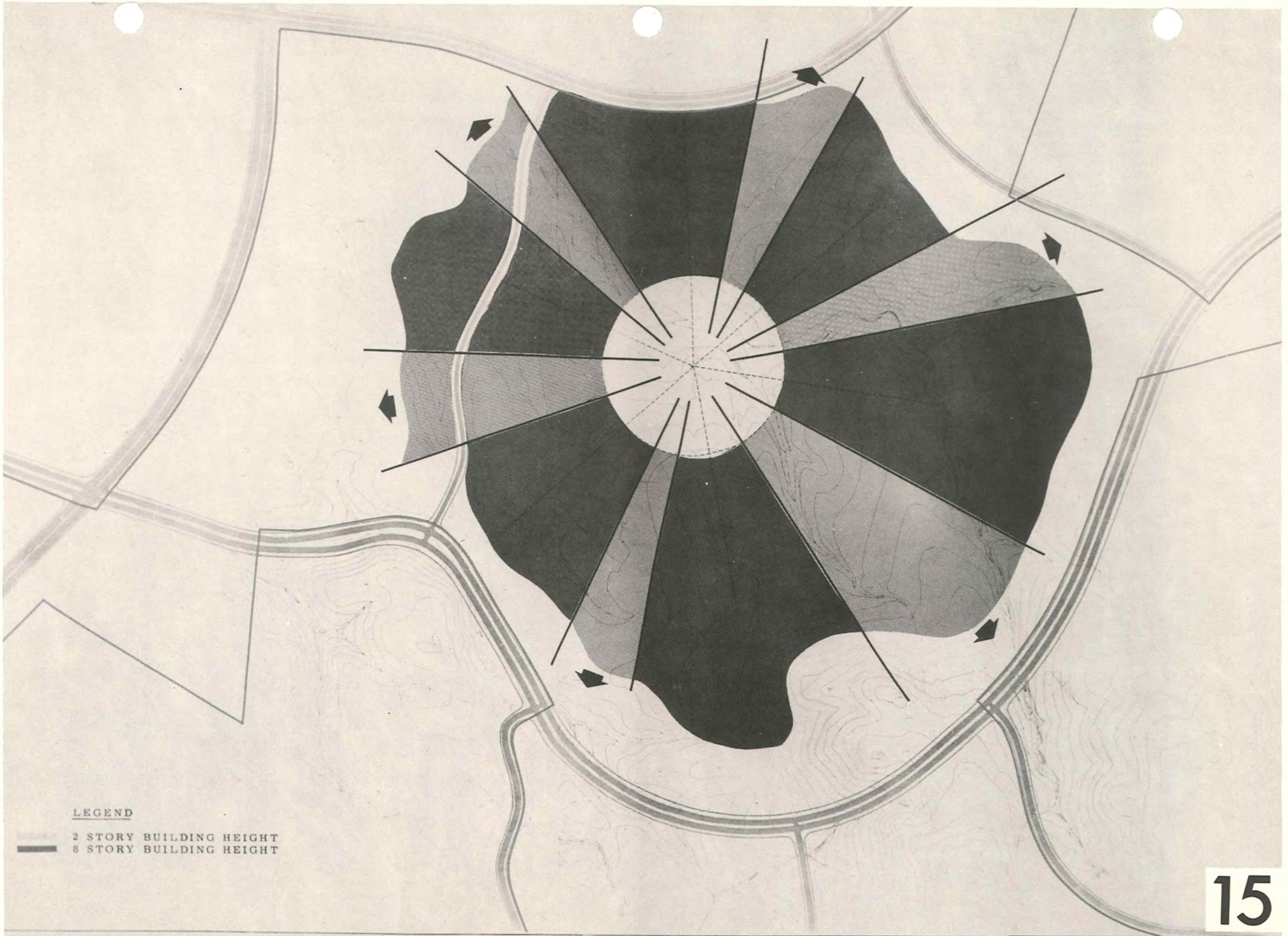
LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF CALIFORNIA, IRVINE

CENTRAL CAMPUS
ORGANIZATION

SCALE FEET

DECEMBER 13, 1962

N




15

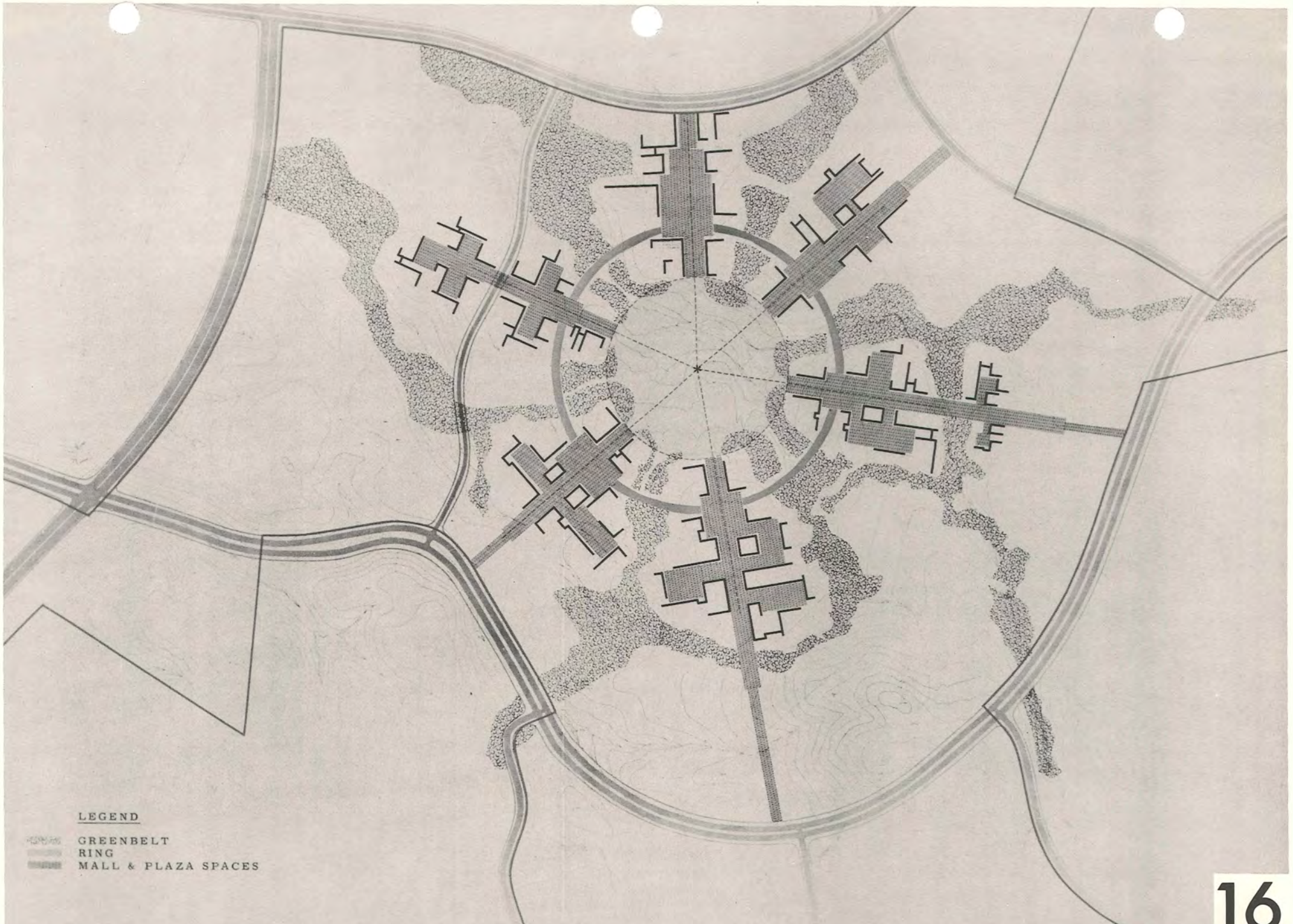
LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF CALIFORNIA, IRVINE

BUILDING HEIGHT ZONES

0 200 400 600 800
SCALE FEET

DECEMBER 13, 1962

N




16

LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF CALIFORNIA, IRVINE

EXTERIOR SPACES

0 200 400 600 800
SCALE FEET

DECEMBER 13, 1962

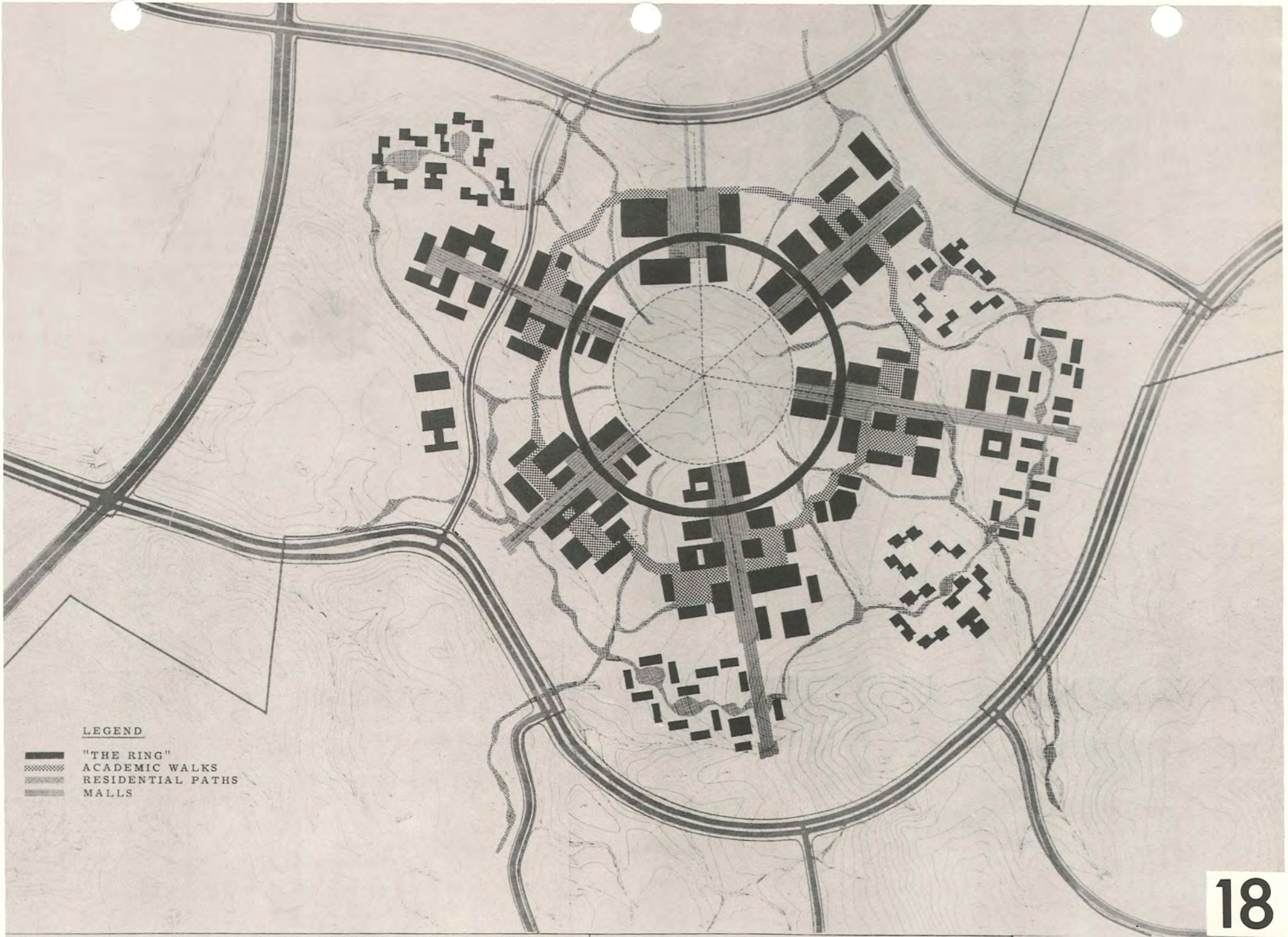
N


17

LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF CALIFORNIA, IRVINE

VEHICULAR AND
BICYCLE CIRCULATION

DECEMBER 13, 1962




18

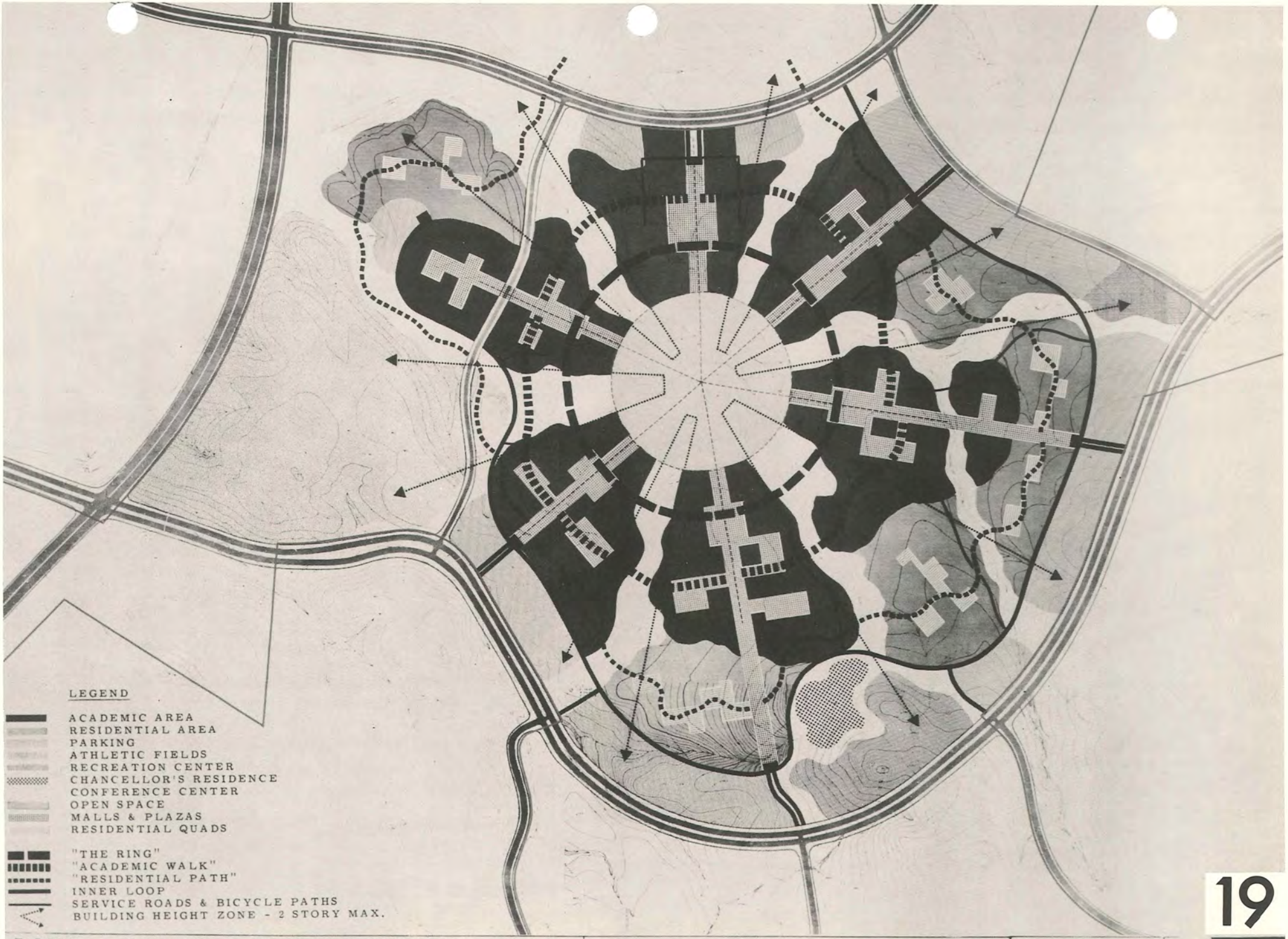
LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF CALIFORNIA, IRVINE

PEDESTRIAN CIRCULATION

0 200 400 600 800
SCALE FEET

DECEMBER 13, 1962

N




19

LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF CALIFORNIA, IRVINE

FINAL CENTRAL CAMPUS PLAN

SCALE 0 200 400 600 800 FEET

DECEMBER 13, 1962

N

The Ultimate Development Plan (Fig. 20) contained in this report and based upon the drawings listed above represents a close approximation of what the campus might be like when fully developed.

The University Precinct Plan (Fig. 21) shows the relationship between University land (approximately 1000 acres), the Inclusion Areas (approximately 660 acres) and the Town Center.

20

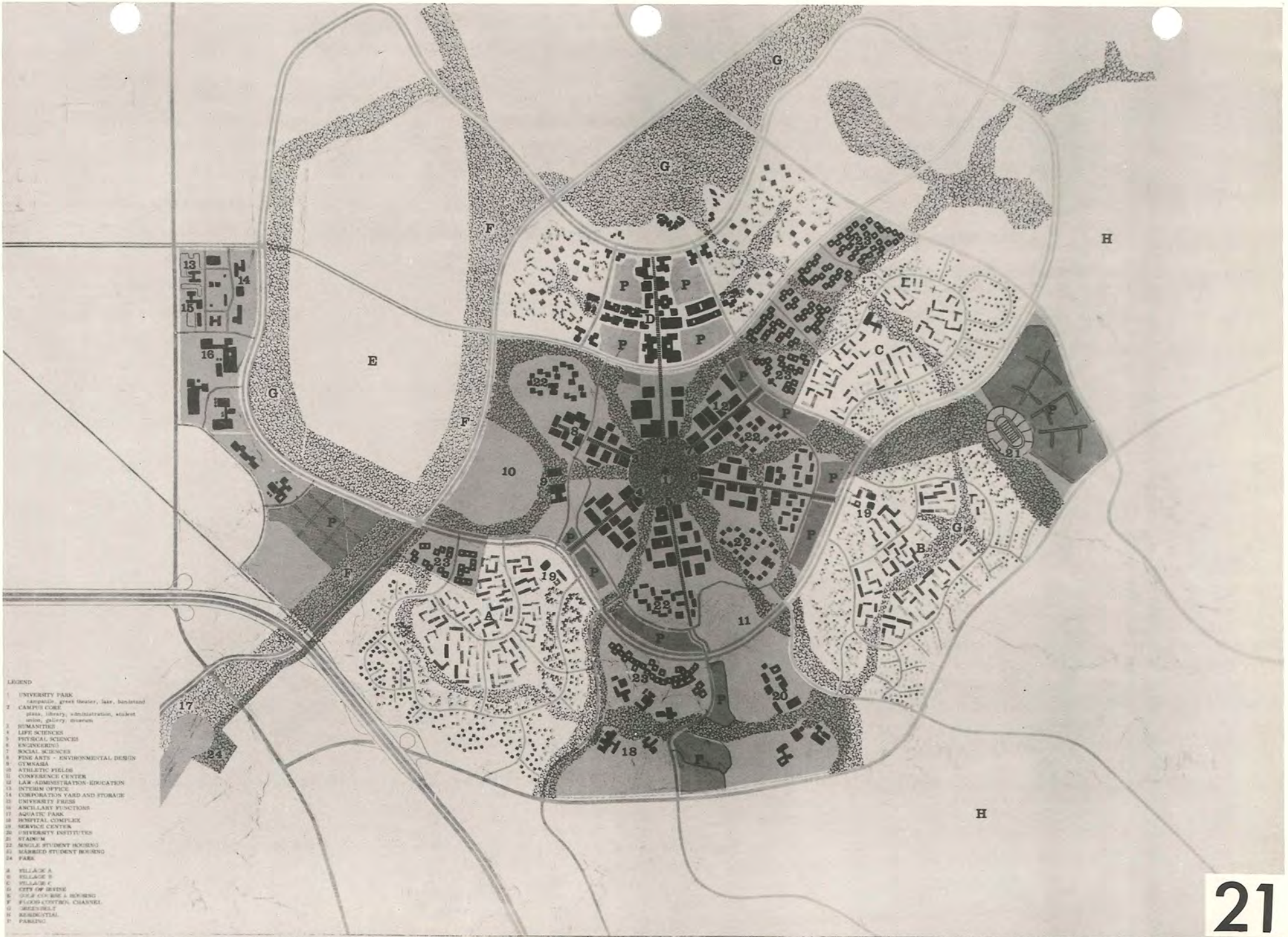
LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF CALIFORNIA, IRVINE

ULTIMATE DEVELOPMENT PLAN

0 200 400 600 800
SCALE FEET

DECEMBER 13, 1962

N




21

LONG RANGE DEVELOPMENT PLAN
UNIVERSITY OF CALIFORNIA, IRVINE

UNIVERSITY PRECINCT

0 500 1000 2000
SCALE FEET

DECEMBER 13, 1962

N

Initial Increment

In accordance with master plan goals, the initial buildings have been sited to implement the concept of the central park and the main pedestrian ring and to create an immediate sense of the identity of this campus. The initial building program consists of six major building projects. The areas and costs for these buildings are listed below:

| | Area - sq. ft. | | Construction Budget |
|---|---|---|---|
| | Assignable | Outside Gross | |
| Library Unit 1 | 53,705 | 80,268 | 1,725,391 |
| Cafeteria | 16,140 | 24,364 | 655,000 |
| Social Sciences - Humanities Unit 1 | 59,700 | 96,589 | 2,248,446 |
| Natural Sciences Unit 1 | 73,165 | 116,570 | 3,397,840 |
| Multi-purpose Unit 1 | 41,611 | 59,230 | 1,463,289 |
| Residence Halls Unit 1 | 49,000 | 76,600 | 1,450,000 |
| | 293,321 | 453,621 | 10,939,966 |

(An explanation of each unit is provided in Appendix I.)

Landscape Architecture

The plan proposes to supplement and enhance the natural character and beauty of the rolling hills and yet retain the magnificent view of the Santa Ana Mountain Range dominated by Santiago and Modjeska Peaks.

The existing cayons and adjacent areas will be planted with tree masses to form greenbelts and windbreaks that will extend from the campus core to outlying areas of the University and to the regional developments beyond.

Open spaces will be provided where exceptional views and vistas occur. Between each building complex a meadow-like effect will be created by planting large open grass areas and shade tree masses.

The General Long Range Development Plan defines six major quadrangle areas radiating from the central core. These areas are scheduled for a more formal types of landscape treatment. The formal landscape treatment of the pedestrian malls through each building cluster will relate the malls to the buildings themselves and create a grand vista from one end of the mall to the surrounding panoramic views.

The six malls, as one looks towards the center of the campus, will open up to the central park area with its natural canyons and park-like landscaping.

Mass plantings at the major campus approaches and entrance locations will be designed so that the neighboring areas will enjoy a pleasant view of the campus.

Night lighting on pedestrian ways will emphasize landscape features.

Plant Palette

Some adverse soil conditions (such as toxic amounts of salt in the subsoil, the presence of sandstone, shale and clay) together with cultural, climatic and aesthetic considerations, limit the types of plant materials used on this campus. These conditions have determined the need for a comprehensive plant palette that can be used as a guide for the proposed planting program.

The first phase of the planting program will include plants selected from the palette for their tolerance to the existing site conditions and their rapid growth rate. The first phase planting will create a more suitable micro-climatic condition for less tolerant plant materials planted during the second phase of the program. This approach will minimize plant loss and will result in a more satisfactory pla nting program. The problems of campus maintenance, economy of plant materials, and use of self-sufficient plantings and longer lived material will require considerable attention when detailed landscaping plans are developed.

### Long Range and Initial Increments

The first step in the landscape development will be the design and construction of the central park and the landscaping around the major building areas. This increment will create a central focal point and axis for the campus.

Windbreaks and greenbelts will be planted as soon as possible to establish the landscape framework for the campus.

The master landscape long range development plan has been developed with the aim of achieving maximum aesthetic and functional value from the beautiful existing topography.

This landscape plan will provide for the needs of students and faculty by developing outdoor areas for study, for relaxation, and for enjoyment.

## Engineering

Engineering problems of direct concern to the Long Range Development Plan relate to: mechanical and electrical, water supply and sewage, drainage, and grading.

### Mechanical and Electrical

The basic requirements in selection of a mechanical and electrical system were lowest capital investment; lowest

maintenance cost; and best phasing capability. A central plant and utility tunnel were selected.

The plant will be located near the multi-purpose building and as close to the Ring as is practical without interfering with the expandability of two adjacent quads. In addition to heating and air conditioning facilities, the plant will house the campus alarm and control center and the campus communications center.

The primary section of the utility tunnel will be located under the Ring and will be connected to the central plant and to academic buildings by branches running beneath each of the six malls. In the three locations where the Ring becomes a bridge to cross drainage channels, the utility lines will be carried as part of the bridge structure. Besides heating and air conditioning lines, the tunnel will also handle gas supply, electricity, communication lines, TV cables, and pneumatic tubes connecting academic buildings to the library. The Ring thus serves a significant engineering function as well as providing circulation and contributing to the beauty of the campus.

All utility services will be brought underground into the central plant from off site so that there will be no utility poles or overhead cables to disfigure the campus landscape.

The initial campus increment requires tunnel construction and services for only half of the Ring. When buildings surround the Central Park, the Ring and the tunnel will be completed and branch tunnels will be built as additional malls are developed.

## Water Supply

The Campus and surrounding areas will be served by the Irvine Ranch Water District which has capacity rights in two metropolitan water district feeder lines and the San Joaquin Reservoir now under construction. These facilities have been designed to provide for the Campus as well as surrounding areas.

The water distribution system for the Campus will consist of a primary loop located on Crosstown Road, Bonita Canyon Road, Culver Road and MacArthur Boulevard with sub-loops constructed to serve individual areas as they are developed.

With the above facilities serving the area, shortages are improbably, making the construction of storage facilities within the Campus unnecessary.

## Sewerage System

The sewerage system for disposal of sanitary wastes from the University Campus and surrounding Inclusion Areas will consist generally of gravity lines flowing northward and westward discharging into County Sanitation District Number 14 trunk lines located on Paularino, Crosstown and Loop Roads.

The principal collecting lines will be located wherever feasible,

on "off-campus" roads or street right-of-ways designed to serve both campus and off-campus areas.

The ultimate estimated average sewage flow, based on the ultimate usage of potable water for domestic use is 1,890,000 gallons per day.

Drainage

The natural drainage for the area in which the Campus is located is generally northwestward. The majority of the Campus and Inclusion Areas are drained by a swale running through the central park.

For aesthetic reasons it is proposed that three bridges be built on the "Ring" over the three main drainage channels. With the bridges provided, the most economical method of handling the drainage is by surface channels. Improvements to the natural channels should be limited to minor shaping and lining where necessary with rock or gunite to control flow and erosion. Structures for all principal drainage ways should be desinged for 50-year storms as defined by the Orange County Flood Control District.

Drainage for plazas, parking, streets and other improved areas will be by catch basins and laterals to natural drainage

where surface flow is not feasible.

Grading

The grading to be done on the Campus will be that required for providing plazas for the building groups, sites for housing, parking lots, roads and athletic fields.

To the greatest extent possible, rough grading will be done well ahead of the construction phases and will be arranged to preserve existing land forms by keeping necessary changes to an absolute minimum. As the grading work is phased, every attempt will be made to balance the cut and fill within each project.

## E. UNIVERSITY COMMUNITY

In the earliest stages of consideration of this location as a possible new campus site for the University of California it was evident that one of its principal advantages was the opportunity to create a whole new city which would effectively meet the needs of the University. A stimulating and healthy urban environment is in itself an important ingredient in the growth of a university.

The community growing up around the new campus is expected to have a population of 100,000 or more by the turn of the century. A large proportion of people in the community will be University students, faculty and staff and their families. Their influence will be felt and their needs will be a primary matter of concern in every aspect of the new city's development.

The personnel of science-oriented firms and craft industries will be another important element in the community. Areas have been set aside for these activities in order that the community may have a sound economic base and that the business firms and the University alike may benefit from their proximity to one another. Scientists and highly-trained technicians will come to work in the laboratories and plants which are expected to located in the vicinity of the University. Artists and artisans will gravitate toward the craft industries center.

To these will be added the professional, commercial, skilled, unskilled and domestic groups which comprise any community.

Ideally it is hoped that the new city will be a place in which the majority of these people can work, and live and enjoy beauty in their surroundings without having to travel many miles each day. To satisfy the demands of such a heterogeneous population the city itself will have to develop a wide and interesting variety of cultural, social, commercial and residential facilities.

As described in the Preliminary Report for a University-Community Development in Orange County (Phase One Report) the University Community represents the "primary area of influence" within which the campus is located. It is an area of approximately 10,000 acres, generally defined to the north by a line north of the San Diego Freeway, and to the west by the future Corona del Mar Freeway. The remaining boundaries, less sharply defined, are roughly delineated by the rugged topography of the San Joaquin Hills beyond two proposed County roads on the south and east.

As part of a series of agreements between the University, The Irvine Company and various public agencies covering conditions necessary to the University if the Irvine site were to be chosen, the County Board of Supervisors, on April 18, 1960, passed a resolution agreeing to designate the 10,000 acres University Community a "Planning Area" under the laws of California. The purpose of this action was to place the area under the stewardship of the County until it could be incorporated.

Since the Phase Two Report was completed in May 1960, the general land uses within the proposed University Community and the most important elements of the University Precinct, the campus and the section of the Community immediately surrounding it, have been given more detailed study as part of the comprehensive planning by The Irvine Company.

The following is a brief review of developments which have had a significant effect on the planning of the campus:

a) University Precinct (Fig. 21 )

This area of approximately 2000 acres is the central section of the University Community, generally bounded by the future Corona del Mar Freeway, Crosstown Road, Culver Road and Bonita Canyon Road. It comprises the campus and the areas closest to it and although several different land uses are included, it can best be planned as a single entity. It includes the following areas in addition to the 1000 acres of the University campus:

| | | |
|---|---|---|
| (i) | Inclusion Areas | 660 acres |
| (ii) | Town Center | 105 acres |
| (iii) | High Density Housing | 126 acres |
| (iv) | Greenbelt-Recreation | 83 acres |

(i) Inclusion Areas

The three Inclusion Areas are immediately adjacent to the campus core and are separated by special use sections of the campus. In this way, each should develop as a neighborhood with its own individual characteristics, close enough to the campus to obviate the need for all residents to drive to class, office or place of employment.

The Phase Two Report emphasizes the importance of developing these areas along with the campus, in order to stimulate campus growth, to provide needed living space for faculty, staff and students; and to provide a sense of community from the earliest possible moment. The areas will be restricted to University personnel.

The original agreement between The Regents and The Irvine Company allowed for the University to participate in the development of the Inclusion Areas or for the University to buy the land outright under specified conditions. The University started negotiations to buy the 660 acres in June 1962. These negotiations are still underway.

Regardless of who owns the land, however, both parties agree that development should be substantially the same. As part of the general planning for the Irvine Ranch and as part of the campus planning, some very preliminary thought has been given to how these lands could best be utilized and related both to the campus and to the surrounding community. Studies will be needed to determine the economics and the

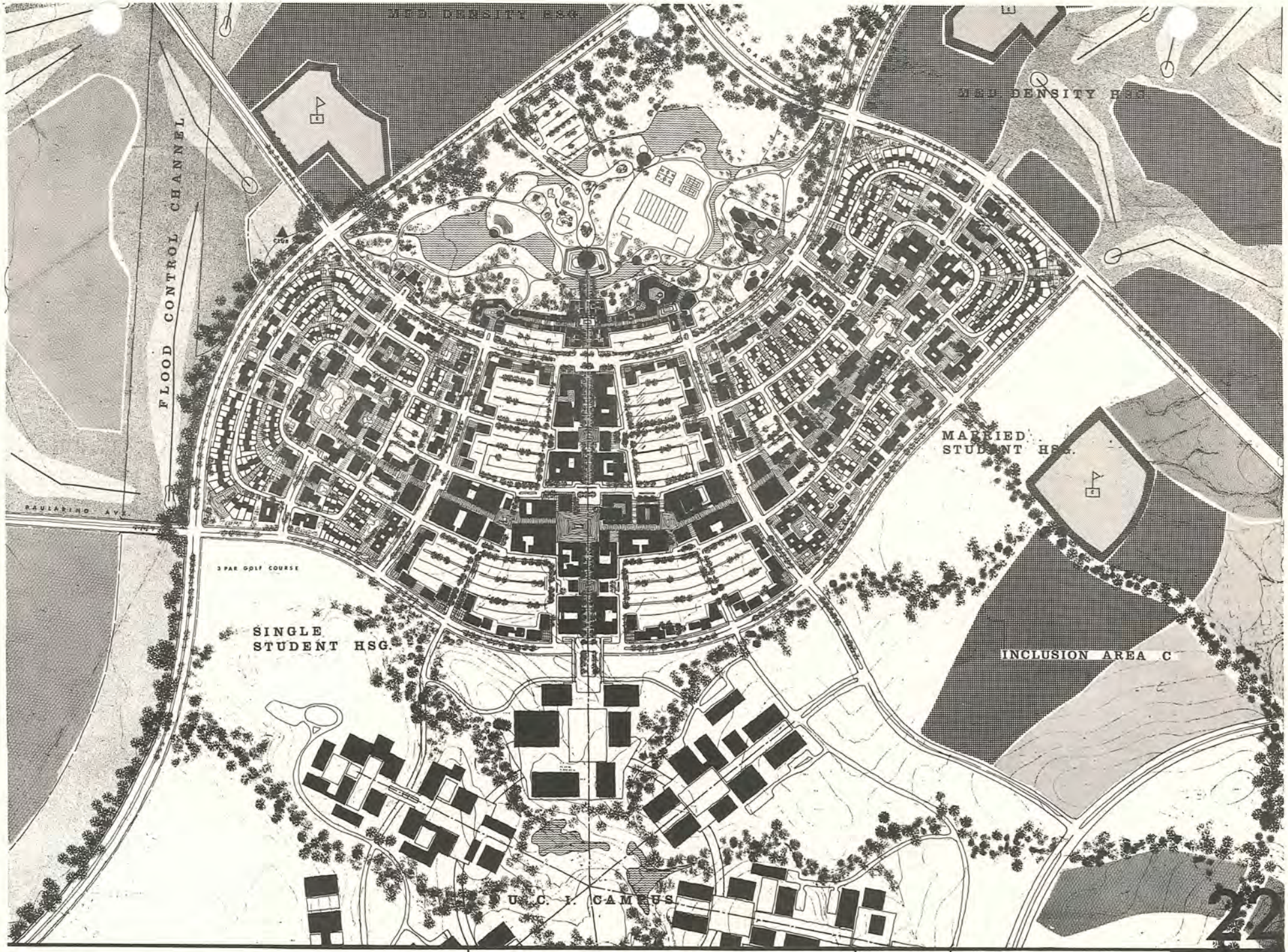
proper mix of facilities in each phase of development.

(ii) Town Center (Fig. 22)

The Town Center will serve as the focus of social, civic, cultural, and commercial activity for the whole university community. In concept, it is patterned after the older towns of Europe and America where shops, offices, civic facilities and housing are closely organized in pedestrian scale. Oriented toward the University population and directly related by strong physical ties to the campus, it will develop the essential character of a university town.

The site is a plateau overlooking San Canyon, which will be developed as a major greenbelt.

The commercial center has been planned about an axis connecting the heart of the campus to the heart of the town. It will be the main shopping area, compact and intimate in scale. Its principal feature is the town square, around which are located the most important retail stores, together with key public and office buildings. An inn or hotel to serve as the social and recreational focus of the community will be included in the first increment of buildings.




# UNIVERSITY TOWN CENTER

DEVELOPMENT PLAN
HORIZON YEAR

PHASE TWO
MARCH 22, 1963
6220.2

0 200 400 600 800 1000 FT.

WILLIAM L. PEREIRA & ASSOCIATES PLANNING & ARCHITECTURE

The two main thoroughfares which cross at the town square are both essentially reserved for pedestrian use. Well defined pedestrian entries lead in from the campus and from the high density housing areas which lie east and west of the commercial center.

Parking is concentrated into major compounds which are graded in landscaped steps, to lessen the oppressive appearance of large concentrations of asphalt and automobiles.

A secondary shopping area of the Farmer's Market type is located at the northern end of the main avenue, overlooking the greenbelt. Schools and churches are also located at the edge of the greenbelt.

(iii) High Density Housing

Two areas of high density housing are included in the Town Center plan. Both are within a half-mile walking distance of the commercial center. Together they can accommodate a population of 10,000, approximately one-tenth of the total University Community, at a density of 80 persons per acre.

Unlike the Inclusion Areas, these areas will not be restricted to University personnel, although many of the faculty, staff and students may want to live close to the facilities of both town and gown. A number of business or professional people who work or have offices in the town are expected to live here also.

It will be desirable to make dense use of the land near the commercial center to accommodate as many people as possible.

(iv) Greenbelt - Recreation

This area is part of the major greenbelt which is an important element of the University Community. It will be used both for private and public recreational facilities for the population of the Town Center. (See d below.) Its complex of churches will provide a significant cultural center for the thousands of students.

b) General University Community

(i) Industry

Because of the importance of industry to the tax base of the University Community, particularly with the 1000 acre campus being tax free, and because of the increasingly important relationship between industry and universities, approximately 1,400 acres were allocated for industrial uses. A study to be undertaken shortly by The Irvine Company will help to determine the appropriate area required. The University Community industrial areas are in turn part of larger districts which continue into Newport Beach, Santa Ana and Costa Mesa. Southwest of the campus, along the Corona del Mar Freeway, is an area allocated to Institutional Research. Here facilities directly related to University scientific and engineering activities can be built by private industry or foundations.

Beyond the San Joaquin "arm" of the campus and reaching around the Orange County Airport, an industrial park for light industry and research and development is being established. Two firms are already located in this area. Collins Radio have a 177 acre site on which they have built the first increment of a research facility which by 1967 is expected to cover 50 acres and emply 2,500 people. Astropower Incorporated, a subsidiary of Douglas Aircraft Company has started construction of the first increment of a research facility which by 1967 is expected to cover 50 acres and employ 2,500 people.

East of San Joaquin Road and north of the campus property, an area of 332 acres has been reserved for "craft industry" which might be attracted by the general atmosphere of the University Community and the part time labor supply provided by the students. This area would provide a climate favorable for the production of high quality art objects and utensils. It might contain design and production facilities for a silversmith, a furniture house, textile manufacturer, jeweler, toy manufacturer. It is also ideally situated for the development of newspaper, magazine and book publishing houses.

(ii) Residential Areas

The remainder of the community south and east of the University Precinct will be devoted to residential development. As the University and the town center grow, the attractions of living near both and being located a few miles from

the ocean and close to two freeways, should create a large demand for housing.

Although it is anticipated that the largest proportion of this area will be devoted to single family housing, topographic differences indicate a variety of types and prices. Approximately half of the area is flat or gently rolling, allowing greater densities and lower development costs. Housing here will be moderately priced. The remainder of the land ranges from rolling to very steep and is similar in places to the Berkeley or Hollywood Hills. Sites here will be larger and both site development and construction costs higher.

One remaining residential "island" has been proposed for the low-lying area bounded by Crosstown Road, the University's San Joaquin area, the craft industries area and the future flood control channel. In future years, when the population pressures warrant the cost, this marshy section could be partially dredged to form a lake, with the surrounding land built up for a golf course and single family housing.

(iii) Greenbelt

Crosstown Road bisects the community from east to west and generally follows San Canyon Wash, a wide low canyon bordered by bluffs on each side, which is one of the natural drainage channels from the San Joaquin Hills to the Upper Bay.

It is proposed that most of the land, from the future County Park at the head of the Upper Bay to Sand Canyon Reservoir and possibly into the hills beyond, be reserved as open space for recreational uses. It would provide a park-like entrance to the campus, open space through the heart of the University Community and non-vehicular access to the major sections of the University Town Center by means of pedestrian and bicycle paths.

(iv) Roads and Freeways

A basic network of roads and freeways to serve the City of Irvine is in the process of development. This network is part of a general circulation plan for the entire coastal sector of the Irvine Ranch.

Major vehicular access to the campus and the Town Center will be

provided by the future Corona del Mar and San Diego Freeways. The future Newport Freeway also affects the University Community area. Alignments and presently anticipated schedules are as follows:

(1) Corona del Mar Freeway (present Mac Arthur Boulevard):

This will connect the Pacific Coast Highway (future Coast Highway) to the San Diego Freeway with an interchange at Newport Freeway. Interchanges are also recommended at San Joaquin Road and Bonita Canyon Road, which will be major entries to the campus. Final construction is expected to be completed sometime after 1970.

(2) San Diego Freeway:

This will extend 94.5 miles from its interchange with the Golden State Freeway in the San Fernando Valley to the San Diego County line near San Clemente. The portion from the southern terminus to the Santa Ana Freeway interchange is complete. From San Fernando Valley south to the San Gabriel River, the freeway is either complete or under construction. The remainder of the route is adopted and construction to the Newport Freeway is expected to be complete by 1966, to El Toro by 1968.

Interchanges are at South Main Street, San Joaquin Road, Culver Road, Jeffrey Road and Central Avenue. This freeway will be a major artery to the campus. The Culver Road entrance may well be the campus "front door."

(3) Newport Freeway:

This future freeway is 17.7 miles in length and will connect the Pacific Coast Highway and the Riverside Freeway. The portions from the coast to Costa Mesa and from Chapman Avenue to the Riverside Freeway are complete. The portion between Chapman Avenue and the Santa Ana Freeway will be completed in 1963 and the remainder, it is hoped, by 1965.

There will be interchanges with both the Santa Ana and the San Diego Freeways.

Only three public roads of any magnitude actually traverse the University Community area, San Joaquin Road, Lane Road, and Mac Arthur Boulevard, the future Corona del Mar Freeway.

The three major internal community roads, Crosstown Road, Bonita Canyon Road and Culver Road, will be built by the County as specified in the Resolution of the Board of Supervisors on April 26, 1962. Eventually, these three will all be divided six-lane roads, with 120 foot right-of-way.

## F. APPENDICES

### I. SPACE ALLOCATIONS:

The plan explains diagrammatically the land uses for the 1000 acre campus, the chart indicates the gross acreage allotments to these various uses:

#### (1) THE CENTRAL CAMPUS

| | | |
|---|---|---|
| The Park | = | 30 Acres |
| Academic Area | = | 160 |
| Residential (Single Students) | = | 80 |
| Parking | = | 68 |
| Chancellor's Residence and Gardens | = | 6 |
| Athletics | = | 88 |
| Conference Center | = | 12 |
| Campus Recreation Center | = | 6 |
| Total Central Campus: | | 450 Acres |

#### (2) THE OUTER CAMPUS

| | | |
|---|---|---|
| University Services<br>Corporation Yard<br>Shops<br>Laundry<br>Storage<br>Press<br>Commissary | = | 25 Acres |
| Special Graduate & Research<br>Applied Science Laboratories<br>Engineering Laboratories<br>Special Institutes | = | 185 |
| Future Medical Complex | = | 75 |
| Married Student Housing | = | 103 |
| Stadium and Park | = | 17 |
| Intramural Fields and Recreation | = | 35 |
| Parking Compounds | = | 100 |
| Link to Upper Bay and Water Park | = | 10 |
| Total Outer Campus | | 550 Acres |

TOTAL CAMPUS 1,000 Acres

A. Academic Area

(1) Classrooms and Academic Buildings

The area assigned to academic land-uses totals 160 gross acres. Twenty-five percent will be devoted to permanent open space in greenbelts, plazas and malls. Thus approximately 120 acres remain for actual building sites. If 40% of these 120 acres actually held structures, some 2,090,880 square feet of ground area could provide 8,363,520 square feet of floor area at an average building height of four floors. Since the projected building program for 27,500 students calls for only 5,692,065 square feet of floor area, the LRDP allows for more than sufficient academic floor area without necessitating either dis-functional sprawl or infringement on the permanent open spaces which distinguish the separate quadrangles.

The long range planning for the six quads, five of them academic and one special, suggest the following square footages:

(i) Gateway Quad:

| Facility | ASF | Assumed Gross |
|---|---|---|
| 1. Student Center | 131,500 | 206,478 |
| 2. Under Graduate Library | 106,438 | 161,356 |
| 3. Main Library | 150,000 | 214,000 |
| 4. Administration - Main Building - Student Services | 75,000 | 125,000 |
| 5. Auditorium - Theater | 88,800 | 148,000 |
| 6. Extension | 30,600 | 51,000 |
| 7. Alumni Office | 9,000 | 15,000 |
| 8. Art Gallery | 15,000 | 25,000 |
| 9. Museum | | |
| TOTAL (Without Museum) | 690,338 | 1,085,834 |

(ii) The Humanities Quad

The Humanities Quad will include academic and research facilities for Language and Literature, Philosophy, the Arts and Architecture.

| Facilities | | ASF | Assumed Gross |
|---|---|---|---|
| Basic Humanities - Inside the Ring | | | |
| 1. | First Classroom Building | 33,105 | 53,287 |
| 2. | Faculty Office Building | 26,927 | 45,635 |
| 3. | Second Classroom Building | 29,500 | 49,166 |
| | Sub-Total: | 89,500 | 148,088 |
| 4. | Lecture Hall (500 Seats) | 9,600 | 13,714 |
| 5. | Faculty Offices | 30,000 | 50,000 |
| 6. | Classroom Building | 35,000 | 58,333 |
| 7. | Classroom Building | 43,468 | 70,780 |
| | Sub-Total: | 117,468 | 192,827 |
| | TOTAL: | 207,000 | 340,915 |
| The Arts - | | | |
| 8. | Fine Arts | 60,000 | 100,000 |
| 9. | Auditorium | 5,400 | 7,700 |
| 10. | Music | 42,000 | 70,000 |
| 11. | Theater Arts | 60,000 | 100,000 |
| 12. | Environmental Design | 68,000 | 113,000 |
| | Sub-Total: | 235,400 | 390,700 |
| | TOTAL HUMANITIES: | 442,400 | 731,615 |

(iii) The Social Sciences Quad

The Social Sciences Quad will include academic and research facilities for Anthropology, Geolography, Political-Science, and Sociology. At its outer edge it will include the schools of Education, Law and Administration.

| Facilities | ASF | Assumed Gross |
|---|---|---|
| Inside the Ring - | | |
| 1. Classroom Building | 44,100 | 73,000 |
| 2. Office Building | 27,600 | 46,000 |
| 3. Classroom Building | 48,000 | 80,000 |
| Sub-Total: | 119,700 | 199,000 |
| Outside the Ring - | | |
| 4. Classroom Buildings | 60,000 | 100,000 |
| 5. Classroom Buildings | 18,000 | 30,000 |
| 6. Lecture Hall | 9,000 | 13,000 |
| Sub-Total: | 87,000 | 143,000 |
| Special Facilities - | | |
| 7. School of Administration | 62,700 | 103,450 |
| 8. School of Education | 45,000 | 75,000 |
| 9. School of Law | 60,000 | 100,000 |
| 10. Law Library | 48,000 | 80,000 |
| Sub-Total | 249,300 | 414,450 |
| TOTAL: | 456,000 | 756,450 |

(iv) The Life Sciences Quad

The Life Sciences Quad will include the academic and research facilities for Botany, Microbiology, Psychology and Zoology. It would have an important functional relationship to a future school of medicine, if one were to be developed.

| Facilities | ASF | Assumed Gross |
|---|---|---|
| Inside the Ring - | | |
| 1. Class Laboratory | 66,024 | 109,471 |
| 2. Lecture Hall - Library | 9,100 | 13,150 |
| 3. Class Laboratory | 45,288 | 75,480 |
| Sub-Total: | 120,412 | 198,101 |
| Outside the Ring - | | |
| 4. Laboratory Building | 70,000 | 115,000 |
| 5. Research | 18,688 | 31,145 |
| 6. Laboratory Building | 80,000 | 133,333 |
| 7. Graduate Labs | 32,000 | 53,333 |
| 8. Research | 30,000 | 50,000 |
| Sub-Total: | 230,688 | 382,565 |
| Possible Graduate Facilities - | | |
| 9. Public Health | 44,400 | 74,000 |
| 10. Health Science | 60,000 | 100,000 |
| Sub-Total: | 104,400 | 174,000 |
| TOTAL: | 455,500 | 760,666 |

(v) The Physical Sciences Quad

The Physical Sciences Quad will include academic and research facilities for Chemistry, Geology, Mathematics, and Physics.

| Facilities | | ASF | Assumed Gross |
|---|---|---|---|
| Inside the Ring - | | | |
| 1. | Basic Science Labs | 70,000 | 116,000 |
| 2. | Lecture Hall | 9,000 | 15,000 |
| 3. | Science Classrooms | 42,000 | 70,000 |
| | Sub-Total: | 121,000 | 201,000 |
| Outside the Ring - | | | |
| 4. | Chemistry | 40,200 | 67,000 |
| 5. | Chemistry | 78,000 | 130,000 |
| 6. | Physics | 36,000 | 60,000 |
| 7. | Physics | 57,000 | 95,000 |
| 8. | Math Science (2 Buildings) | 142,000 | 180,000 |
| 9. | Research | 36,000 | 60,000 |
| 10. | Library | 24,000 | 40,000 |
| 11. | Research (1 or 2 Buildings) | 36,000 | 60,000 |
| | Sub-Total: | 449,200 | 692,000 |
| | TOTAL: | 570,200 | 893,000 |

(vi) The Engineering Quad

Because of the emphasis to be given to the School of Engineering and because of the large size anticipated for its facilities it was decided to add to the relationship studies one additional quadrangle to house the engineering facilities.

| Facilities | ASF | Assumed Gross |
|---|---|---|
| Inside the Ring - | | |
| 1. Basic Engineering [1] | 60,000 | 100,000 |
| 2. Basic Engineering [2] | 60,000 | 100,000 |
| Sub-Total: | 120,000 | 200,000 |
| Outside the Ring - Three Basic Types of Space: Laboratory, classrooms, offices - | | |
| 3. | 10,800 | 18,000 |
| 4. | 30,600 | 51,000 |
| 5. | 73,200 | 122,000 |
| 6. | 10,200 | 17,000 |
| 7. | 60,000 | 100,000 |
| 8. | 11,000 | 185,000 |
| 9. | 45,000 | 75,000 |
| 10. | 15,000 | 25,000 |
| 11. | 30,000 | 50,000 |
| 12. | 27,000 | 45,000 |
| Sub-Total: | 385,600 | 643,000 |
| TOTAL: | 505,800 | 843,000 |

Initial Academic Increment

The following data summarize the final first increment scheme approved by the Regents in October 1962:

Gateway Quad:

Gateway Quad will be established by two buildings (Library I and Cafeteria) which will give the Campus a formal entry from the beginning and will frame the entry from the plaza to the park.

A. Library-Administration Building: (Library Unit I)

Program:

| | |
|---|---|
| 50,000 | Assignable Square Feet |

Actual:

| | |
|---|---|
| 53,705 | Useable Square Feet |
| 80,268 | Outside Gross |
| 67% | Efficiency |
| $1,725,391 | Construction Budget |

Basic Concept:

(1) Open loft structure for maximum flexibility.
(2) Open stacks with access to books.
(3) Expandable to at least double present size.
(4) About 1/4 of space used by campus administration for first few years.

B. Student Center: (Cafeteria)

Program:

| | |
|---|---|
| 17,000 | Assignable Square Feet |

Actual:

| | |
|---|---|
| 16,140 | Useable Square Feet |
| 24,364 | Outside Gross Square Feet |
| 66% | Efficiency |
| $655,000 | Construction Budget |

Basic Concepts:

(1) First unit of Student Center complex functions as a dining commons for resident students and cafeteria for others.
(2) 600 seats initially divided into 400 main dining, 50 faculty, 150 later in bookstore.
(3) Additionaly seating outside on platform, plaza, roof deck.
(4) Eventually doubles in size to 1,200 plus banquet facilities.
(5) Creates center of activity on campus
(6) Relates to eventual union complex.

In order to plan the first buildings in the Gateway Quad for expandibility and to insure proper function when all buildings are completed, a study was undertaken of total quad development. The first buildings were then designed as small components of a total pattern.

The Humanities Quad:

The first two buildings marking the entry to the Humanities Quad

will serve initially for both the Humanities and the Social Science Programs. These are Social Sciences - Humanities Unit I.

C. Social Sciences - Humanities Unit I:

Program:

| | |
|---|---|
| 60,000 | Assignable Square Feet |

Actual:

| | |
|---|---|
| 59,700 | Useable Square Feet |
| 96,589 | Outside Gross Square Feet |
| 62% | Efficiency |
| $2,248,446 | Construction Budget |

Basic Concepts:

(1) First unit of Humanities Plaza to be used for basic teaching, seminar spaces and faculty offices.
(2) Separate office building and classroom building because of different functions and structural requirements.
(3) Connection from office building at second level to classroom building with circulation up or down to classes.
(4) Space for future classroom or office building 4 to 6 stories, 50,000 - 60,000 square feet.

Life Sciences Quad:

The first two buildings will be used initially for Life Sciences, Physical Sciences, Engineering, Geology and Psychology.

D. Natural Sciences - Unit I:

Program:

| | |
|---|---|
| 70,000 | Assignable Square Feet |

Actual:

| | |
|---|---|
| 73,165 | Useable Square Feet (approximately) |
| 116,570 | Outside Gross Square Feet (approximately) |
| 62.7% | Efficiency |
| $3,397,840 | Construction Budget |

Basic Concepts:

(1) Maximum flexibility; grad and teaching labs interchangeable.
(2) Close proximity of labs, offices, teaching spaces.
(3) Plan concentrates labs with utilities in bulk spaces; faculty and division offices on narrow module.
(4) (4) Lecture Hall located for best ultimate proximity, pedestrian connection at upper plaza - materials and utilities to preparation areas at lower plaza.
(5) Additional 4-6 story class/lab/office building of 75,000 - 100,000 square feet inside of ring.

Three additional building projects complete the First Increment.

They are:

E. <u>The Multi-Purpose Building:</u> (Multipurpose Unit I)

Program:

| | |
|---|---|
| 40,000 | Assignable Square Feet |

Actual:

| | |
|---|---|
| 41,611 | Useable Square Feet |
| 59,230 | Outside Gross Square Feet |
| 70% | Efficiency |
| $1,463,289 | Construction Budget |

Basic Concepts:

(1) Provides facilities for Physical Education, Military Science, Student Health.
(2) Gymnasium provides for Assembly and flexible uses.
(3) Oriented on site to protect pool and relate to outdoor fields, golf, courts.
(4) Possible future addition opposite pool for gymnasia and lockers.
(5) High windows for natural light with sunscreens to avoid direct sunlight on playing floor. Narrow width to protect against basketballs.

F. The Central Plant:

The Central Plant will be located across the campus road from the Multi-Purpose Building and will be built to serve the academic facilities within the Central Campus.

Concepts:

(1) Built to house heating, air conditioning, central control and alarm, and communication facilities.
(2) Initital section built to serve the First Increment plus some Phase II expansion.
(3) Designed to expand easily.
(4) Built back into the hillside so that the roof will be related to the grade around three sides.
(5) Designed to utilize the roof for athletic purposes.

G. Residence Halls - Unit I

Program:

| | |
|---|---|
| 49,000 | Assignable Square Feet |

Actual:

| | |
|---|---|
| 51,948 | Useable Square Feet |
| 33,400 | Outside Gross Square Feet |
| 208 | Actual Square Feet per Student |
| $1,450,000 | Construction Budget |

Basic Concepts:

(1) Adapts basic criterion on a ratio of 200 square feet per student to provide more useable space.
(2) Wood frame construction.
(3) Eight 50-student living groups with rooms opening off lounge - (Study Hall).
(4) Each two units connected with laundry room and outside stairs.
(5) Roof deck used for study and recreation.
(6) Multiple and variable arrangements for two-man room or four-man suite.
(7) Central administration with lobby, library, recreation, snack bar, mail, resident manager; expands with future dining commons to serve additional 400 student increment.

The First Increment is scheduled for completion during the summer of 1965 to accommodate students entering in September.

B. Housing Areas

| | | |
|---|---|---|
| Ultimate Student Body | = | 27,500 |
| 25% Housed on Campus | = | 6,875 |
| Assume: 70% Single | = 4,813 | |
| Assume: 30% Married | = 2,062 | |

(1) Single Student Housing

Housing will be provided for 4,813 single students at an average density of 100 students per acre.

| | | |
|---|---|---|
| Acreage Needed | = | 48.13 |

Parking Area Needed

Assume 2 spaces for 3 students

| | | |
|---|---|---|
| 3,208 spaces @ 125 cars per acre | = | 25.67 |
| Total Acreage Required | | 73.80 |

Five separate housing communities are provided in a housing zone surrounding the central academic area. In the future, several different types of housing can be provided, at slightly different densities, to allow students in residence to choose living accommodations that are appealing to them. The three basic types suggested are:

Student Villages: Comprising low, two-story units for 50 students each.. These are located in areas where low, residential scale buildings are desirable. The initial residence hall program establishes the first of these villages.

Residential Quads: Similar in architectural character to the traditional residential colleges of Oxford, Cambridge, Yale or Harvard. These will offer larger scaled units and larger social groupings.

Multi-Story: In the future, there are a few locations where towers could be employed to give visual punctuation and to provide a very urban kind of housing for those who desire it.

(2) Married Student Housing

Housing will be provided for 2,062 families, at an expected average of 3.5 persons per family, giving a population of 7,217 people. There will be three villages in the Outer Campus, located adjacent to Loop Road, one almost a part of Inclusion Area A; one a part of the Hospital Complex; and the third and largest between Inclusion Area C and the Town Center.

| | | |
|---|---|---|
| Acreage Needed at 20 Units Per Acre | = | 103.10 |
| Parking Area Needed | | |
| Assume one space per unit | | |
| 2,062 spaces at 125 spaces per acre | = | 16.50 |
| Total Acreage required | = | 119.60 |

C. Parking

The following parking needs are based on statistics from other campuses of the University of California and from experience records at other college and university campuses provided by Wilbur Smith & Associates, traffic consultant. (All parking areas are assumed to handle 125 cars per acre.)

1. Acreages

(a) Resident Students

4,813 Single Students: 3,208 cars = 25.67 acres

2,062 Married Students:2,062 cars = 16.50 acres

= 42.17 acres

(b) Students within campus community

It is anticipated that some 50% of all full time students will reside within the immediate campus community. Since half that number will be housed on-campus, the other 25% will live in the Inclusion Areas and nearby residential areas. Presumably most of these will walk, bicycle or utilize public transportation to travel to campus. However, allowance must be made for those in this category who will require auto transportation due to permanent or temporary disability. Allowing parking privileges for 10% of the 6,875 students in this category:

687.5 parking spaces = 5.5 acres

(c) Commuter Students

Fifty percent of the student body, 13,750 students, must be considered commuters. With no assurance of an adequate public transportation system, it must be assumed that these people will rely on the automobile. Because of a wide variety of class schedules and some ride sharing, one space can serve for each two students.

50% of 13,750 = 6,875 = 55.00 acres

(d) Faculty and Staff in Residence Near The Campus

When the student population reaches 27,500, there will be approximately 8,690 faculty and staff members.

When the Inclusion Areas and the Town Center residential areas are developed, offering attractive and convenient housing near the campus it is assumed that approximately 20% (1,738) of this group would live within the University Precinct and would walk bicycle, or take public transportation to the campus. However, to allow for the elderly, disabled or others unable to do so, some parking must be provided on campus for members.

Traffic consultants recommended that spaces be provided for 10% of those living near the campus.

10% x 1,738 = 173.8 = 1.4 acres

(e) Commuter Faculty & Staff

Approximately 80% (6,952) of the faculty and staff will live outside of the University Precinct and must be considered commuters. University experience indicates that spaces should be provided for two-thirds of this number.

= 37.00 acres

(f) Sub-total of Parking Area =141.07 acres

(g) Visitors and Special Requirements

To allow for visitors, tourists and unusual parking demands, it is recommended that there be an additional amount of parking equal to 5% of the above total.

= 7.00 acres

(h) Total Parking Needed =148.07 acres

2. Location of Parking Areas

(a) The Central Campus

There will be four types of parking in the Central Campus.

i. General Parking Lots

Located on the perimeter of The Central Campus will be parking areas for faculty, staff and students with a very high parking priority = 30 acres

ii. Special Parking Lots

Several very small parking lots will be located at the rear of The Academic Buildings, accessible from the service roads. They will be reserved for the disabled, for the elderly, or others with the highest parking priority = 5 acres

iii. Single Student Housing

Parking will be provided for the single students adjacent to the housing areas. = 26 acres

iv. Visitor and Special

All of the special parking will be provided near the Gateway Quad. = 7 acres

v. Total for Central Campus = 68 acres

(b) The Outer Campus

There will be two categories of parking in the Outer Campus.

i, Married Student Housing

Parking for these families will be provided within their residential villages. = 16.5 acres

ii. Parking Compounds

The large parking compounds for the majority of the commuters will be located along the principal entry roads leading to the Central Campus.

= 65.5 acres

iii. Total for the Outer Campus = 82 acres

(c) Total Parking Shown on Campus = 150 acres net

Planting and Dividers = 18 acres

Total Planned: = 168 gross acres

## II. Architectural Vocabulary

### a) Influences of the Master Plan

The Master Plan sets up several over-all design conditions that must be recognized:

#### (1) The Urban Spaces

One of the fundamental design features of the Plan is the urban spaces, the malls and plazas, that characterize each of the six major quadrangle areas. The buildings enclose the plazas and create a "streetscape" along the malls. Consequently, although the continuous facades of a typical city are not envisioned, the buildings must be capable of extension or connection to create the necessary enclosure.

#### (2) The Landscaped Spaces

The Central Park and the greenbelt areas separating the building clusters create a network of landscaped open space to which various architectural features can be permanently related.

#### (3) The Vistas

Several important views from the outer campus toward the Centrum and from the Park outward must be permanently protected. Consequently, buildings within the view pattern must be designed so that they do not interfere with the outward or inward vista.

(4) Building Terraces

The site will be graded to create the terraces defining the Park and to create the terrace levels for the various plazas. Because of the changes of level between the terraces themselves and between terraces and natural grades, many buildings will have multiple entry from two or three levels. As a repeated condition, this will have a decided effect on the fundamentals of design.

b) Natural Influence

(1) The Topography

The rolling hillsides, the few steep canyons, and the gently rising ridges must all be considered in determining architectural form. The terraced earth forms developed in similar landscapes of Mediterranean Spain and Italy for vineyards and orchards, as well as the hillside villages, suggests a method of handling which seems both economical and attractive.

(2) Lack of Vegetation

The complete absence of trees and shrubs on the site, the quality of the soil, the shortage of water and the general climate indicate that it will take many years before the campus has a mature landscaped quality. The shadow and shade usually given by trees must be given for many years by the buildings.

(3) The Sky

The Irvine area is characterized by "white" skies, caused at different seasons by haze, dust, clouds or high fog. These skies are usually very bright and create a considerable amount of glare which will affect not only the way glass areas are handled, but also the color and treatment of blank surfaces.

c) Vocabulary Elements

Out of the study of these elements came several fundamental design ideas which were adopted by The Regents as the Architectural Vocabulary for the Irvine Campus.

(1) The Base

All major buildings will be built on a strong architectural base created by terraces, heavy piers, platforms, and earth berms singly or in combination. With the landscaped terraces between building groups, the building bases will create a constant strong horizontal counterpoint to the natural rolling contours. The base will also create a strong architectural link between a wide variety of building forms.

(2) Architectural Order

A consistent but flexible module of approximately five (5) feet has been established for all major Central Campus buildings. By maintaining this module as a basis for structural bays,

fenestration and other design elements, a quality of visual order can be created while still allowing considerable freedom of architectural expression.

(3) Texture

Textured rather than smooth surfaces will be used where possible to lessen the effect of the prevalent white skies and to add richness to large expanses of urban walls.

(4) Color

Browns, terra cottas and other natural earth tones commonly used in mediterranean climate zones will compose the basic color palette for the Irvine Campus. Such colors blend well with the colors of the natural landscape and look well with the characteristic strong light.

(5) Use of Roofs

To create inexpensive assignable space, and to improve the appearance of the roof tops from higher buildings and the hillside areas, the necessary elevator penthouses, vents and other unattractive elements will be enclosed by useable rooms opening off roof terraces. These rooms can be used for offices, seminars and laboratories, particularly those which can utilize outdoor space for experiments.

These rooms will be reached from stairs only. If not used for functions that generate heavy traffic, this walk-up space should not cause inconvenience.

(6) Sun Control

Window areas exposed to direct sun or glare will be shielded by a variety of sun control devices. Pre-cast concrete panels, incorporating window spandrel and sun shade will be utilized in several of the first buildings and might establish a design idiom which can be followed in the future.

If these basic vocabulary elements are retained through the long period of growth, the ultimate campus will have unity, even with considerable variety of architectural treatment. It is hoped that each quadrangle will develop its own special architectural characteristics, which will strongly differentiate it from the others. The use of the general vocabulary will tie the buildings of all the Quads together.

The platforms, colors and textures will all help to tie the building groups to the relatively undisturbed landscape during the early years, when contrast between the man-made and the natural features of the site will be most noticeable. However, the ultimate campus, with its daily population of approximately 40,000 people, will have the scale and characteristics of a small city. Consequently, the earliest components must have urban sophistication so that they will be suitable parts of the future whole.